SimpleTreat.i Sensitivity Analysis

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Summary

The topic of this report is a sensitivity analysis of the SimpleTreat.i model. SimpleTreat.i (Van der Wal 2008) is a slightly modified version of the SimpleTreat model for evaluating municipal waste water treatment plants (WWTPs). The original SimpleTreat model is described in Struijs (1996). The modifications are intended to make SimpleTreat.i more easily applicable in an industrial setting. Both the initial modifications and the sensitivity analyses haven been performed under contracts from StatoilHydro.
The sensitivity analyses was done by systematically changing an input parameter from its initial value by adding or subtracting five percent. A clear deviation in the model results from the expected five percent change would indicate a hit. A lower then expected change in the result would indicate a parameter to which the model is insensitive, a higher then expected change would indicate a parameter to which the model is highly sensitive.

The sensitivity analyses included calculations based on six compounds and three existing waste water treatment plants run by StatoilHydro. The required input data for the base cases was supplied by StatoilHydro.
The following parameters were varied:

1) Compound related parameters
   - molecular weight,
   - K_{ow},
   - vapour pressure,
   - solubility and the
   - Henry constant (H);
2) Climate parameters
   - Air temperature,
   - Water temperature,
   - Wind speed;
3) Sewage related parameters
   - total daily sewage inflow,
   - concentration of compound inflow,
   - concentration of suspended solids of the raw sewage,
   - sludge loading rate (dropped from the final analysis) and
   - type of aeration;
4) Biodegradation parameters
   - Biodegration speed
   - Temperature dependence.

Final results from the sensitivity analysis show that SimpleTreat.i is not sensitive to changes in the input parameters. All changes in input values were closely matches by the resulting changes in the model outcome. No parameters are identified as being more important to know precisely than others with respect to model sensitivity.
Considering the aspect of uncertainty a recommendation is made to distinguish between types of parameters that can be reliably be determined and those that are perceived as more challenging to establish a reliable estimate for. Examples of this second group are biodegradation parameters and vapour pressure. Based on this distinction more effort spent on decreasing uncertainty surrounding these parameters will improve the confidence that can be put on the results of the model.

1 Introduction

In a recent project for StatoilHydro changes were made to the existing SimpleTreat-model These changes are intended to make the model more easily applicable in an industrial setting. The original model, developed at the RIVM (Struijs, 1996) was meant for modeling a waste water treatment plant (WWTP) in a municipal setting. The changes made to SimpleTreat were made on the basis of version 3.1 of the spreadsheet model and resulted in a model named SimpleTreat.i. The changes made in SimpleTreat.i are documented in Van der Wal, 2008.

StatoilHydro wishes to use this model to study the efficiency of existing WWTP's at their facilities with respect to known compounds used at that site and present in the waste water. They may also choose to use SimpleTreat.i to ascertain whether addition of a WWTP to an existing site or inclusion of a WWTP in a new development is advisable. All these options fit well with StatoilHydro's goal of achieving Zero Harmful Discharge (StatoilHydro, 2008).

The SimpleTreat model is a well-accepted model for municipal WWTP's and is part of the EUSES 2.0 (European Union System for the Evaluation of Substances), which is a decision-support system for the evaluation of the risks of substances to man and the environment (EC, 2004).

SimpleTreat.i is intended for use in more industrial conditions. Therefore, StatoilHydro asked Wageningen IMARES to perform a sensitivity analysis of the model. With the sensitivity analysis knowledge is gained for StatoilHydro on the applicability of the SimpleTreat.i model for their specific purposes and which inputs need to be accurately known. This will in turn help them in putting the model to good use and allows them to make sound decisions on e.g. requirements for a measurement program or the implementation of a WWTP at some studied location.

2 Data specifications

StatoilHydro delivered information on three industrial WWTP's (Mongstad, Melkøya and Kollsness) and in total six compounds (benzene, naphthalene, phenol, mercury, polyoxyethylene oleyl amine and monoethyleneglycol). Not all required data for the characterization of the chemicals were provided. When possible, supplementary data were extracted from literature sources. For the remaining parameters, default values were used. The WWTP's of Mongstad and Melkøya consist of two parallel placed bioreactors and separators. Calculations are performed for one stream and additional calculations are performed for determining the influence of the WWTP's dimensions.

Values below the detection limit as provided by StatoilHydro were inserted in the model at 50% of the detection limit. Zero values were included as zero values (e.g. inflow mercury for Mongstad).

The influence of a primary sedimentation unit in a WWTP was determined by adding a small sedimentation system (depth of 1 meter) in the 9-box.

In addition to the changes made by Van der Wal (2008), an adaptation of the model was needed. Van der Wal describes a relation between the input of solids in the raw sewage with the sewage flow and the concentration of the suspended solids in the raw sewage and uses this relation to calculate the default values. Using data from an industrial WWTP in combination with a default value other than the sewage flow, results in a false output. Therefore, the relationship described by Van der Wal was used in the calculations and implemented in the model.

While analyzing the sensitivity of the model, some errors and unclear functions were discovered and fixed resulting in a new version of the model: SimpleTreat.i 3.2. In May 2009 a work session was held at StatoilHydro in Stavanger to discuss the findings of the sensitivity analysis and to find the best method of implementing the model in the on-going work at StatoilHydro of implementing an EIF-Onshore. The EIF-Onshore assesses the environmental impact of an onshore installation on the (marine or aquatic) environment. As a method of modelling the of a (biological) WWTP SimpleTreat.i is expected to become part of the EIF-Onshore system.
During this session a further improvement of the SimpleTreat.i was noticed. These changes are the topic of the next section.

3 SimpleTreat.i 3.3

The original SimpleTreat-model (Struis, 1996) is intended for use with municipal waste water treatment plants. It is often used to assess the efficiency of such a WWTP while it is still in the planning phase. The use of preset Sludge Loading Rate (SLR-) settings that are known to work well in reality results in a municipal WWTP automatically sized to have a size (volume) that is fitting for the population it will serve and the per capita amount of sewage generated. Also many municipal WWTP have been designed and are operating at SLRs closely matching the values available from table 1 on the Input-tabl of the model.
Versions 3.1 and 3.2 also operated by calculating the WWTP efficiency based on these preset SLRs. It was however noticed from the results that the exact values of a given WWTP were not reproduced by the model.

The relationship between the SLR, the HRT (PS), SRT and HRT were therefore investigated, based on the available data from Table 1. A perfect mathematical relationship based on a power function was found to exist between the SLR and the other three parameters: the Hydraulic Retiontion Time of the Primary Settler (HRT (PS)), the Sludge Retention time (SRT) and the Hydraulic Retention Time (HRT). These relationships are presented in Figure 1.

Table 1 Sludge loading rate (SLR) related to hydraulic retention time, (HRT) and sludge retention time (SRT). HRT with primary sedimentation (PS) and without; PS has no influence on SRT.

SLR ($kg_{BOD}\ kg_{dwt}^{-1}\ d^{-1}$)	HRT (PS) (hr)	HRT (hr)	SRT (d)	nitrification (-)
0.04 (low)	25.9	40.5	37.0	yes
0.06 (low)	17.3	27	24.1	yes
0.1 (low)	10.4	16.2	14.1	yes
0.15 (medium)	6.9	10.8	9.2	yes
0.2 (medium)	5.2	8.1	6.8	no
0.3 (high)	3.5	5.4	4.5	no
0.6 high)	1.7	2.7	2.2	no

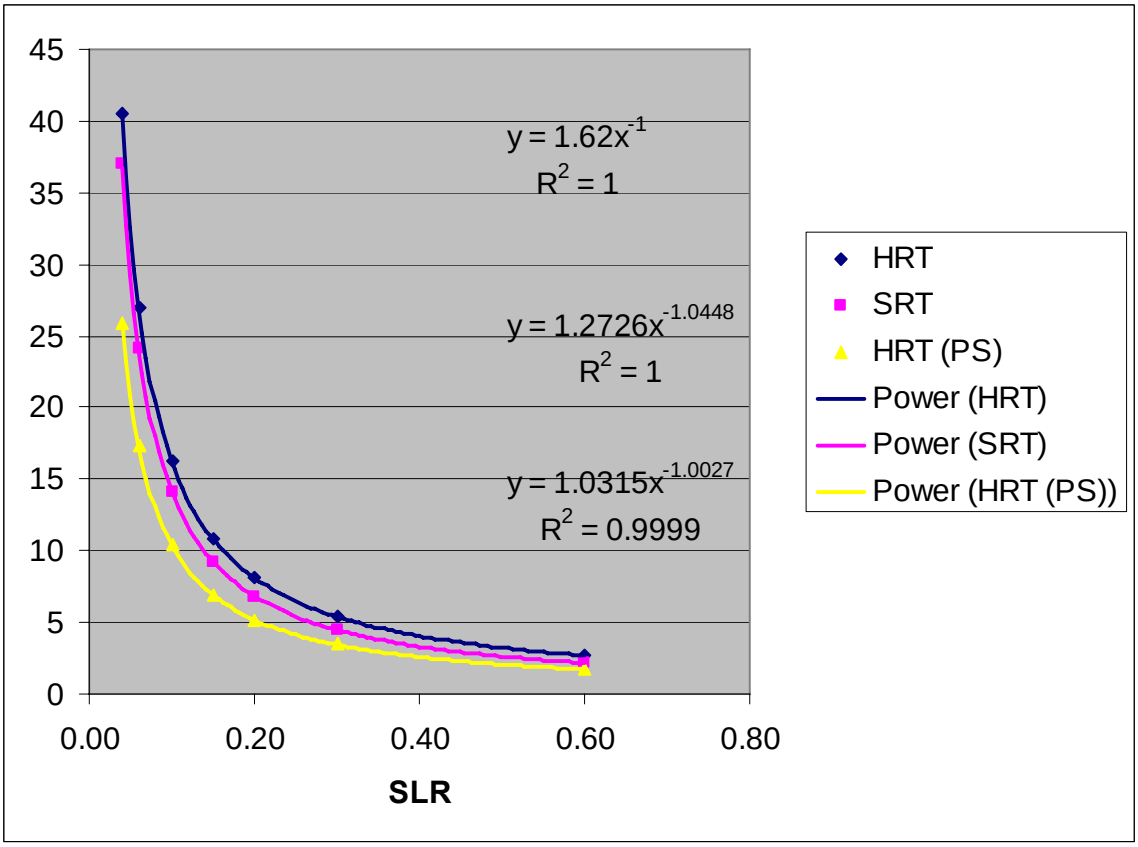


Figure 1 Mathematical relations between Sludge loading rate (SLR) and hydraulic retention times (HRT, HTR (PS)) and sludge retention time (SRT).

In version 3.3 SimpleTreat.i was changed to take one more input value on the Input-tab: Volume aerator (6-box). Using this the HRT of the 6-box WWTP can be calculated. This the ratio of 'Sewage Flow daily total'/' Volume aerator (6-box)' * 24. The final multiplication is a conversion factor from days (for the Sewage Flow) to hours (for the HRT.
The relationship between SLR and HRT (HRT=1.62/SLR) can now be inverted and the exact SLR for a specific 6-box WWTP is known. From this point on version 3.3 of the model does its calculations as always.

As a result of this change SimpleTreat.i 3.3 is even more easily applicable in an industrial setting. Especially when assessing an existing WWTPs with known volumes of sewage flow and basins. Results are also expected to more closely resemble the actual performance of the WWTP. Version 3.2 may be easier to use when performing an assessment for a planned WWTP and pre-selecting an applicable SLR from table 1 (on the Input-tab).

4 Base case calculations

4.1 WWTP Mongstad

The WWTP Mongstad is located in the South West part of Norway (coordinates: 60°48' 48N, 05°02'02E). The plant consists of two parallel placed separate bioreactors and separators. Each stream operates with a daily flow of 2,065,000 litres, containing 50 mg/L of suspended solids. The bioreactor is continuously aerated from the bottom.

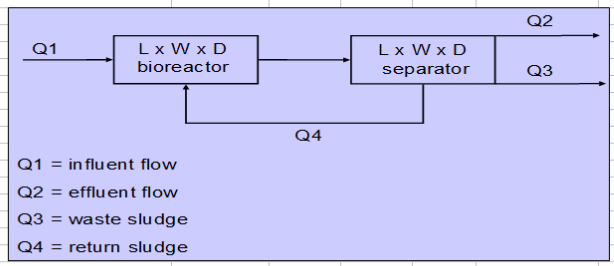
For the gas plant Mongstad, information was provided of five compounds: Benzene, Naphthalene, Phenol, Mercury (as $HgCl_2$) and Polyoxyethylene oleyl amine. Results of the reference calculations for 6-box are shown in Table 2.

Zero inflow concentration was given for mercury and therefore results on distribution and elimination may not be realistic. The calculated measured concentrations of mercury in sludge and effluent show presence of the metal, even though there is no metal in the inflow. This is the result of how the model is intended to operate, when a zero concentration is input, this value is overridden with a 0.5 mg/l default value.

For polyoxyethylene oleyl amine, some of the physical-chemical data was lacking including molecular weight and octanol-water distributions (Kow). The default value of 100 for molecular weight would be an underestimation for this polymer, but exact values are difficult to determine as the repeating oxyethylene groups typically range from 4 to 180 (http://chemicalland21.com/specialtychem/perchem/ETHOXYLATED%20OLEYL%20AMINE.htm).

Mongstad Gas plant Coordinates: 60° 48' 48 North, 5° 2' 2 East

Modelling chemicals	Cas nr	conc in		biodeg (k)		logPow	Vp	Solubility		
Benzene	71-43-2	410	mg/l	0.27 d-1	ready biodegradable	2.13	75 mmHg 20C	1.77	g/l	
Naphtalene	91-20-3	270	ug/l	0.14 d-1		3.3	0.054 mmHg 20C	31.7	mg/l	
Phenol	108-95-2	42000	ug/l	0.079 d-1	ready biodegradable	1.46	0.36 mmHg 20C	70	g/l	
Mercury (Hg)	7439-97-6	0	ug/l	-	-	-	0.002 mmHg 20C	74	g/l	As HgCl2
polyoxyetylen oleyl amine	26635-93-8	0.031	mg/l	0.0 d-1		6	0 mmHg 20C	0.0764	mg/l	
Suspended solids inflow		50	mg/l							



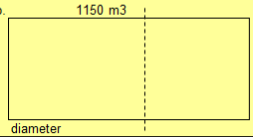
flows

Q1	4130	m3/d	(3345±785 + 785±180)
Q2	3995	m3/d	(3995±935)
Q3	134	m3/d	(134±27)
Q4	1870	m3/d	(1870±420)

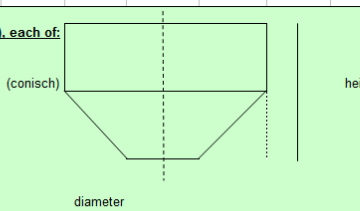
additional info
sludge index in reactor
sludge volume
susp matter in reactor
pH in reactor
temp in reactor

2 separate bioreactors (parallel), each of:

width	10 m
length	20 m
depth	7 m
net working cap.	1150 m3



2 Separators (parallel), each of:
14 m (diameter)
4.15 m (depth)
600 m3



The bioreactor is continuously areated from the bottom

Figure 2 Data as provided on the Mongstad WWTP

The Sludge Loading Rate for the Mongstad WWTP calculated from the input values using the relationship from Section 3 is 0.121 kg BOD/ (kg DWT.d).
For evaluating the environmental performance of the Mongstad WWTP the numbers are presented in Table 2. The distribution of the compounds across the environmental compartments (shown as Summary of distribution in

Table 2) is presented a pie charts in Figure 3. The most important outcome is probably the total effluent concentration as this is the most relevant to compare with environmental quality objectives or other concentrations set either by law or in e.g. an environmental license.

Table 2 View of the 6-box output for WWTP Mongstad (B= Benzene, N = Naphthalene, Ph = Phenol, M = Mercury, Poe = Polyoxyethylene oleyl amine)

		B	N	Ph	M (as $HgCl_2$)	Poe
[c] inflow	(mg/L)	410	270	42000	0 (def.=0.5)	0.031
Elimination in the aerator (%)						
stripping		48.3	10.6	100.0	0.0	0.0
biodegradation		6.7	6.2	0.0	0.0	0.0
Total		55.0	16.8	100.0	0.0	0.0
Elimination in the solids liquid separator (%)						
volatilization		6.2	8.0	0.0	0.0	0.0
via surplus sludge		0.2	2.8	0.0	0.0	2.0
Total		6.4	10.8	0.0	0.0	2.0
Total elimination from waste water (%)		61.4	27.6	100.0	0.0	2.0
Total emission via effluent (%)		38.6	72.4	0.0	100.0	98.0
% dissolved		71.9	0.0	100.0	97.6	97.6
% associated		0.5	0.0	0.0	0.4	0.4
Balance		100.0	100.0	100.0	100.0	100.0
Summary of distribution (%)						
to air		54.5	18.6	100.0	0.0	0.0
to water		38.6	72.4	0.0	100.0	98.0
via surplus sludge		0.2	2.8	0.0	0.0	2.0
degraded		6.7	6.2	0.0	0.0	0.0
Total		100.0	100.0	100.0	100.0	100.0
Concentrations						
in air	(g/m^3)	0.01	$2.3*10^{-03}$	1.9	$2.0*10^{-10}$	$1.2*10^{-11}$
in surplus sludge	(mg/kg)	4518.7	46100.2	32.3	0.6	3.8
in effluent (total)	(mg/L)	158.3	195.4	$5.0*10^{-03}$	0.5	0.03
dissolved	(mg/L)	158.2	194.1	$4.0*10^{-03}$	0.5	0.03
associated	(mg/L)	0.1	1.4	$9.7\ 0^{-04}$	$1.8*10^{-05}$	$1.1*10^{-04}$
in solids effluent	(mg/kg)	4518.7	46100.2	32.3	0.6	3.8

In a WWTP configured like Mongstad with a relatively high SLR, the sewage spends not a lot of time in the plant, this can be seen by the differences between the compounds regarding where and when and by which process they are removed from the water column. A compound with a high volatility like Phenol is completely removed by stripping in the aerator. Less volatile compounds such as Benzene and Naphthalene remain in the system longer and are partially biodegraded. Some of these compounds also escape to the air by volatilization from the settling basin. Other compounds such as not susceptible to volatilization and/or biodegradation and as a result most or all leaves the WWTP with the effluent.
In comparison with the other WWTP in this Sensitiity Analysis operating with lower SLRs biodegradation and volatilization are less important in Mongstad than they are in Melkøya or Kolsness.

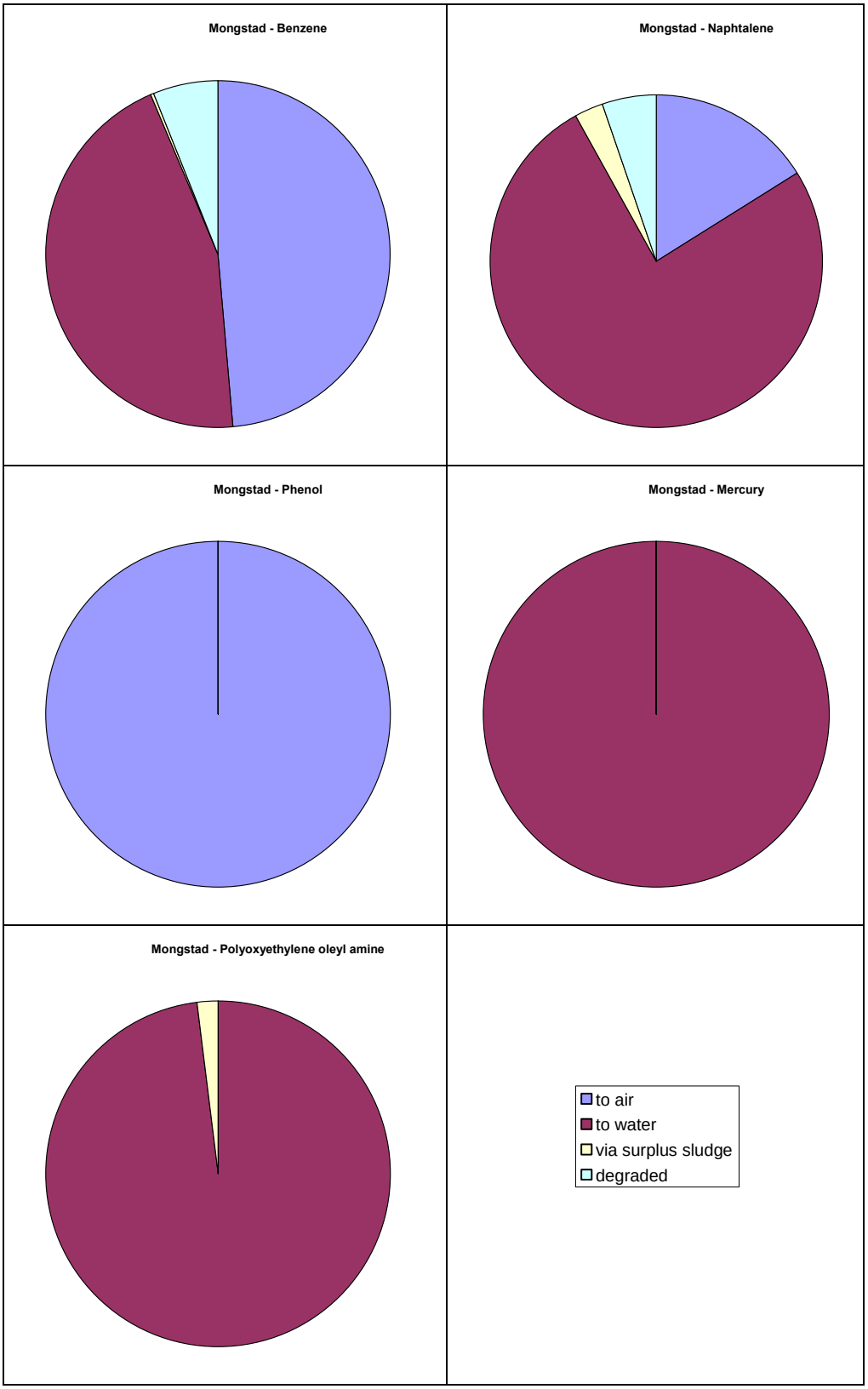


Figure 3 Mongstad environmental fate for all five compounds (6-box)

4.2 WWTP Melkøya

The WWTP Melkøya is located in the Northern part of Norway (coordinates: 70°41'20N, 23°36'25E). The plant consists of two parallel placed separate bioreactors and separators. Each stream operates with a daily flow of 84,000 litres, containing very low levels of suspended solids (<<1 mg/L). The bioreactor is continuously aerated from the bottom.

For the gas plant Melkøya, information was provided of five compounds: Benzene, Naphthalene, Phenol, Mercury (as $HgCl_2$) and Monoethyleneglycol. Results of the reference calculations for 6-box are shown in Table 3.

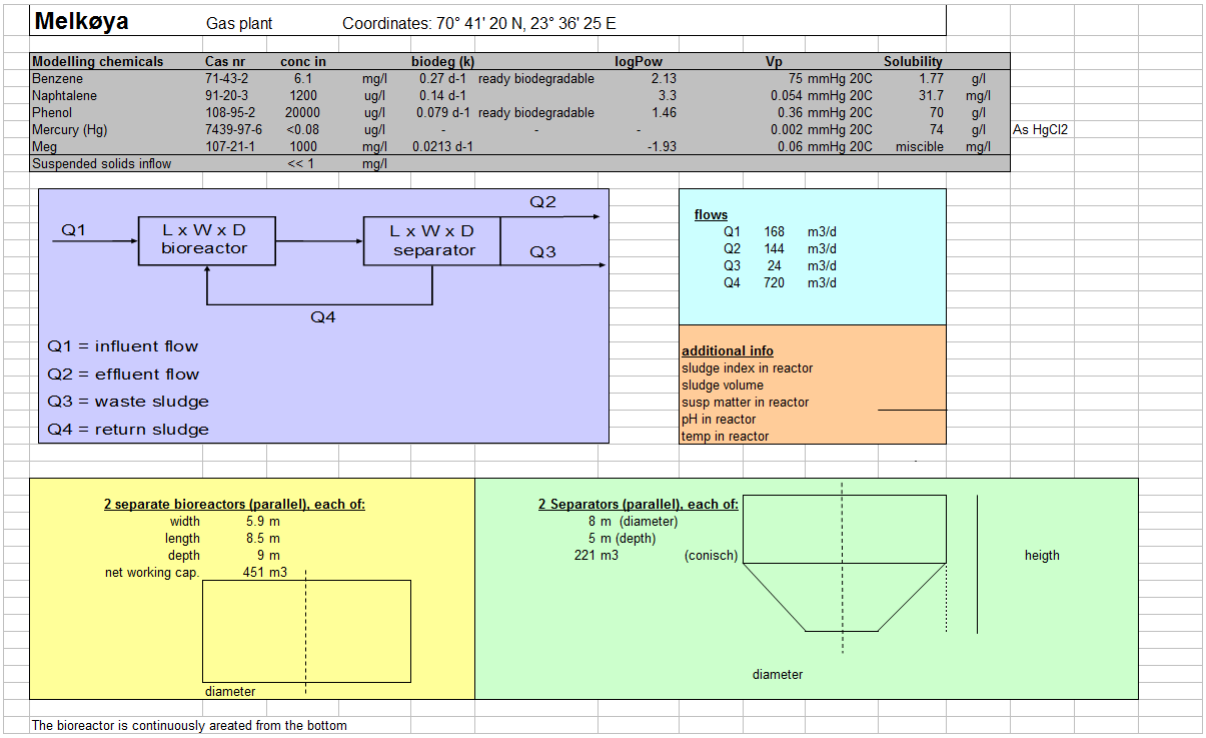


Figure 4 Data as provided on the Melkøya WWTP

The Sludge Loading Rate for the Melkøya WWTP calculated from the input values using the relationship from Section 3 is 0.013 kg BOD/ (kg DWT.d).

For evaluating the environmental performance of the Melkøya WWTP the numbers are presented in Table 3. The distribution of the compounds across the environmental compartments (shown as Summary of distribution in Table 4) is presented a pie charts in Figure 5. The most important outcome is probably the total effluent concentration as this is the most relevant to compare with environmental quality objectives or other concentrations set either by law or in e.g. an environmental license.

Table 3 View of the 6-box output for WWTP Melkøya (B= Benzene, N = Naphthalene, Ph = Phenol, M = Mercury, Meg = Monoethyleneglycol)

		B	N	Ph	M [a] (as $HgCl_2$)	Meg
[c] inflow	(mg/L)	6.1	1.2	20	$4*10^{-5}$	1000
Elimination in the aerator (%)						
stripping		46.1	33.7	100.0	0.0	0.0
biodegradation		31.7	26.6	0.0	0.0	10.3
total		77.8	60.4	100.0	0.0	10.3
Elimination in the solids liquid separator (%)						
volatilization		12.1	17.5	0.0	0.0	0.0
via surplus sludge		0.1	1.0	0.0	0.0	0.0
total		12.2	18.5	0.0	0.0	0.0
Total elimination from waste water (%)		90.0	78.8	100.0	0.0	10.3
Total emission via effluent (%)		10.0	21.2	0.0	100.0	89.7
% dissolved		10.0	21.0	0.0	100.0	89.7
% associated		0.0	0.2	0.0	0.0	0.0
balance		100.0	100.0	100.0	100.0	100.0
Summary of distribution (%)						
to air		58.2	51.2	100.0	0.0	0.1
to water		10.0	21.2	0.0	100.0	89.7
via surplus sludge		0.1	1.0	0.0	0.0	0.0
degraded		31.7	26.6	0.0	0.0	10.3
total		100.0	100.0	100.0	100.0	100.0
Concentrations						
in air	(g/m3)	$1.2*10^{-05}$	$2.1*10^{-06}$	$6.7*10^{-05}$	$9.0*10^{-15}$	$2.0*10^{-06}$
in surplus sludge	(mg/kg)	28.6	82.3	$1.2*10^{-05}$	$4.9*10^{-05}$	33.1
in effluent (total)	(mg/L)	0.6	0.3	$7.8*10^{-09}$	$4.0*10^{-05}$	896.8
dissolved	(mg/L)	0.6	0.3	$7.4*10^{-09}$	$4.0*10^{-05}$	896.8
associated	(mg/L)	0.001	0.002	$3.7*10^{-10}$	$1.5*10^{-09}$	0.001
in solids effluent	(mg/kg)	28.6	82.3	$1.2*10^{-05}$	$4.9*10^{-05}$	33.1

[a] concentration inflow on bases of 50% detection limit

In a WWTP configured like Melkøya with a low SLR, the sewage spends a considerable amount of time in the plant, as a result compounds such as Benzene and Naphthalene which are not very volatile are in the system long enough for both volatilization and biodegradation to play a significant part in their removal from the water column. A volatile compound like Phenol is completely removed by stripping to the air in the aerator, even in a WWTP like Mongstad operating at a higher SLR and with shorter times spent within the system. Other compounds such as not susceptible to volatilization and/or biodegradation and as a result most or all leaves the WWTP with the effluent.

In comparison with the other WWTP in this Sensitiity Analysis operating with lower SLRs biodegradation and volatilization are more important in Melkøya than they are in Mongstad or Kolsness.

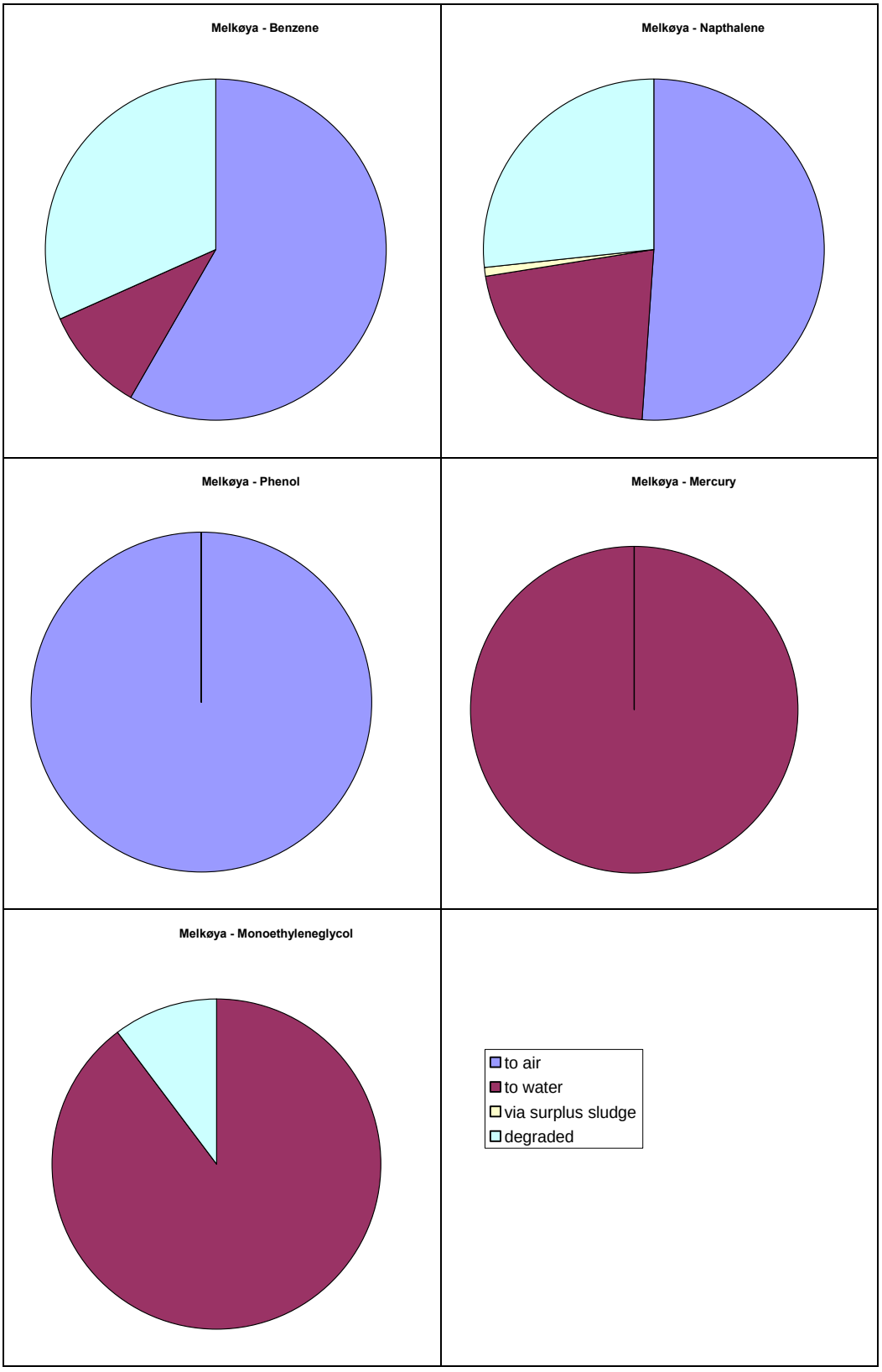


Figure 5 Melkøya environmental fate for all five compounds (6-box)

4.3 WWTP Kollsnes

The WWTP Kollsnes is located in the Southern part of Norway (coordinates: 58°54'06N, 05°34'58E). The plant consists of a separate bioreactor and separator. The stream operates with a daily flow of 1,200,000 litres, containing very low levels of suspended solids (<<1 mg/L). The bioreactor is continuously aerated from the bottom.

For the gas plant Kollsnes, information was provided of five compounds: Benzene, Naphthalene, Phenol, Mercury (as $HgCl_2$) and Monoethyleneglycol. Results of the reference calculations for 6-box are shown in Table 4.

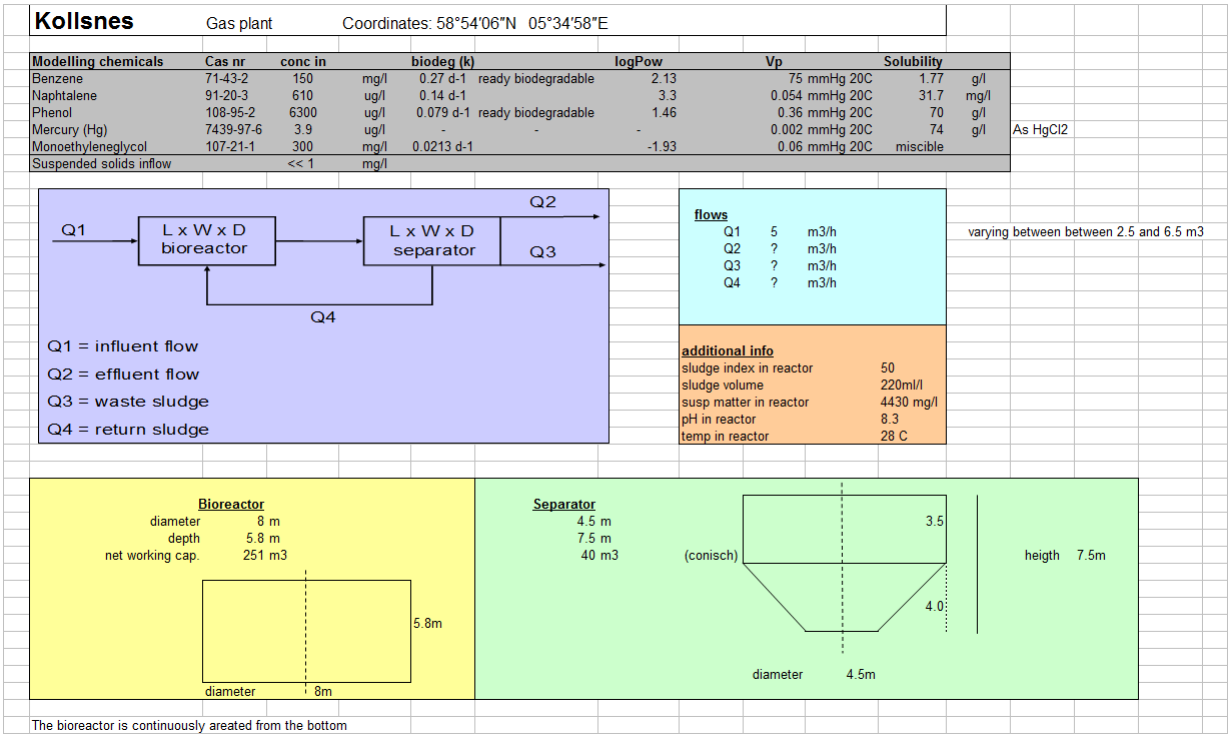


Figure 6 Data as provided on the Kollsnes WWTP

The Sludge Loading Rate for the Kollsnes WWTP calculated from the input values using the relationship from Section 3 is 0.032 kg BOD/ (kg DWT.d).

For evaluating the environmental performance of the Kolsness WWTP the numbers are presented in Table 4. The distribution of the compounds across the environmental compartments (shown as Summary of distribution in Table 4) is presented a pie charts in Figure 7. The most important outcome is probably the total effluent concentration as this is the most relevant to compare with environmental quality objectives or other concentrations set either by law or in e.g. an environmental license.

Table 4 View of the 6-box output for WWTP Kollsnes (B= Benzene, N = Naphthalene, Ph = Phenol, M = Mercury, Meg = Monoethyleneglycol)

		B	N	Ph	M (as $HgCl_2$)	Meg
[c] inflow	(mg/L)	150	0.61	6.3	$3.9*10^{-3}$	300
Elimination in the aerator (%)						
stripping		54.2	30.3	100.0	0.0	0.0
biodegradation		16.5	15.3	0.0	0.0	4.3
total		70.7	45.6	100.0	0.0	4.3
Elimination in the solids liquid separator (%)						
volatilization		2.7	3.4	0.0	0.0	0.0
via surplus sludge		0.1	1.7	0.0	0.0	0.0
total		2.8	5.1	0.0	0.0	0.0
Total elimination from waste water (%)		73.5	50.8	100.0	0.0	4.3
Total emission via effluent (%)		26.5	49.2	0.0	100.0	95.7
% dissolved		26.5	48.9	0.0	100.0	95.7
% associated		0.0	0.3	0.0	0.0	0.0
balance		100.0	100.0	100.0	100.0	100.0
Summary of distribution (%)						
to air		56.9	33.8	100.0	0.0	0.0
to water		26.5	49.2	0.0	100.0	95.7
via surplus sludge		0.1	1.7	0.0	0.0	0.0
degraded		16.5	15.3	0.0	0.0	4.3
total		100.0	100.0	100.0	100.0	100.0
Concentrations						
in air	(g/m^3)	$5.7*10^{-04}$	$1.4*10^{-06}$	$4.2*10^{-05}$	$6.3*10^{-13}$	$4.7*10^{-07}$
in surplus sludge	(mg/kg)	1078.9	68.4	$1.3*10^{-05}$	0.005	10.6
in effluent (total)	(mg/L)	39.8	0.3	$2.4*10^{-09}$	0.004	287.1
dissolved	(mg/L)	39.7	0.3	$2.0*10^{-09}$	0.004	287.1
associated	(mg/L)	0.0	0.002	$3.9*10^{-10}$	$1.4*10^{-07}$	$3.2*10^{-04}$
in solids effluent	(mg/kg)	1078.9	68.4	$1.3*10^{-05}$	0.005	10.6

In a WWTP configured like Kolsness with a low SLR, though clearly higher than Melkøya, the sewage spends a considerable amount of time in the plant. The distribution over the environmental compartments and efficiency of this plant are intermediate between the other two (Mongstad and Melkøya).

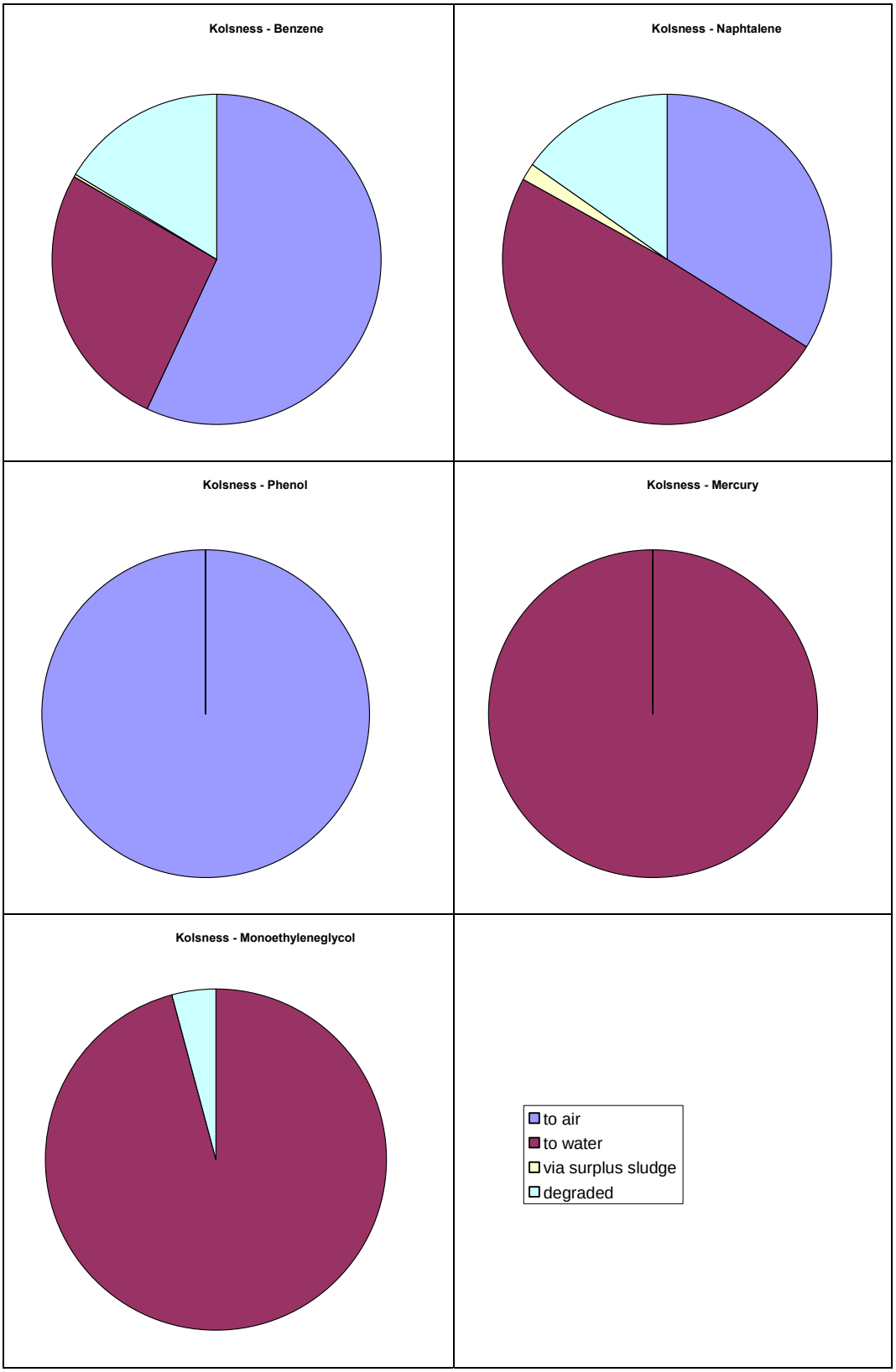


Figure 7 Kollsnes environmental fate for all five compounds (6-box)

4.4 Distribution of compounds

For the three WWTP's, the calculated distribution and removal efficiencies for all compounds relate logically to each other. For the distribution this can best be seen by comparing the graphs of all compounds as given in Figure 3, Figure 5 and Figure 7

The size of the WWTP and the input flow of the compound determine the amount of benzene and naphthalene in the air or water, as well as the amount degraded. From the Mongstad WWTP 38% of benzene resp. 72%of naphthalene entering the WWTP is released with the effluent. For the Melkøya WWTP this improves to only 10% of benzene and 21% for Naphtalene. The major contribution to this improvement comes from increased biodegradation taking place.
Phenol will be entirely present in the air after treatment in the WWTP's. For all three WWTP's, phenol was 100% eliminated from the wastewater by stripping. Adding a primary sedimentation did not influence the amount of elimination, but only the location of elimination. Circa 17% of phenol was eliminated by volatilization in the sedimentation system using a sedimentation system with a depth of 1 m.

All mercury (as $HgCl_2$) and most of the monoethyleneglycol (90-95% in water and 5-10% biodegraded) and polyoxyethylene oleyl amine (98% in water, 2% via surplus sludge) will be present in the water after treatment in WWTP's.

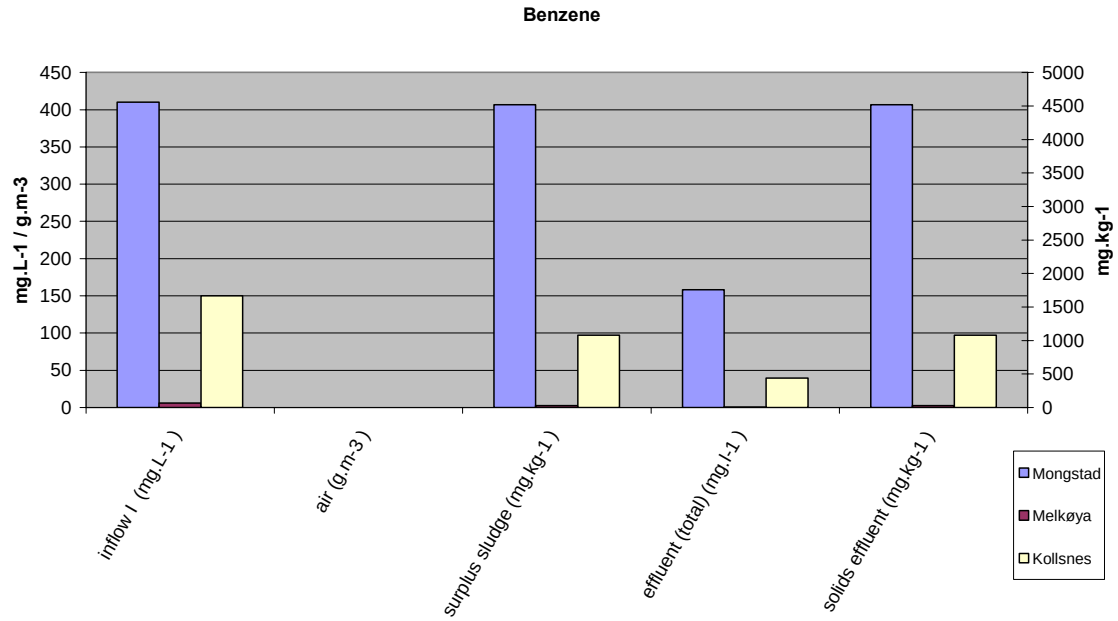


Figure 8 Comparison of benzene concentrations between the three WWTPs (6-box)

Concentrations of benzene as calculated for each of the three WWTPs are shown in Figure 8. Concentrations in water (mg/l) and air (g/m^3) relate to the left axis, concentrations in sludge and solids effluent (mg/kg) relate to the right axis. Benzene concentations at Mongstad are highest, lowest in Melkøya and intermediate in Kolsness.

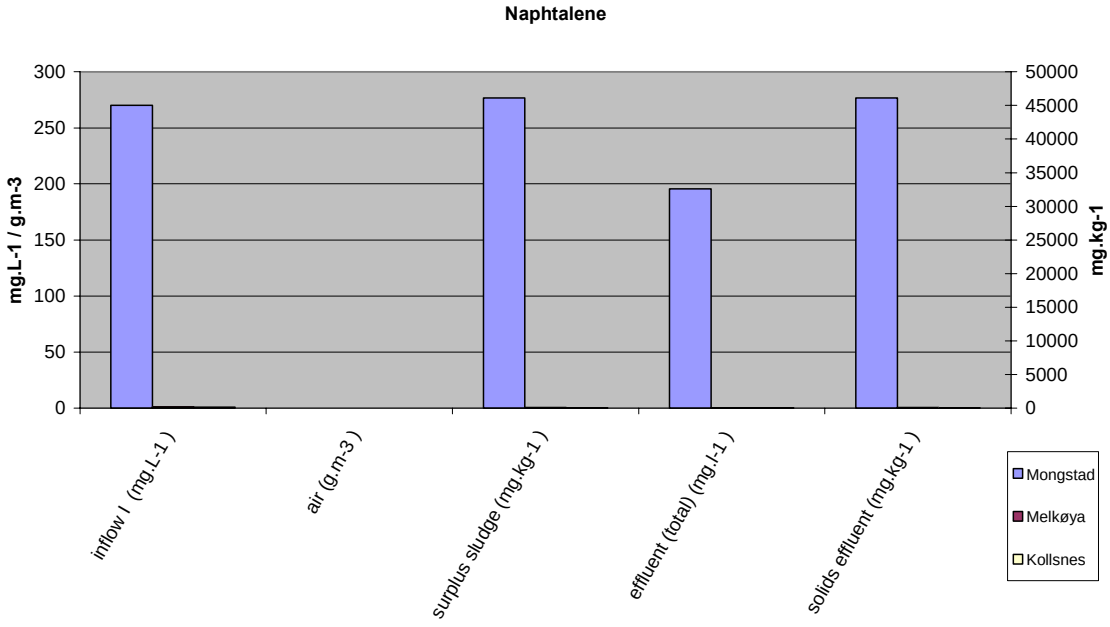


Figure 9 Comparison of naphtalene concentrations between the three WWTPs (6-box)

As can be seen in Figure 9 Naphtalene concentrations are much higher at the Mongstand locaition than at the other locations.

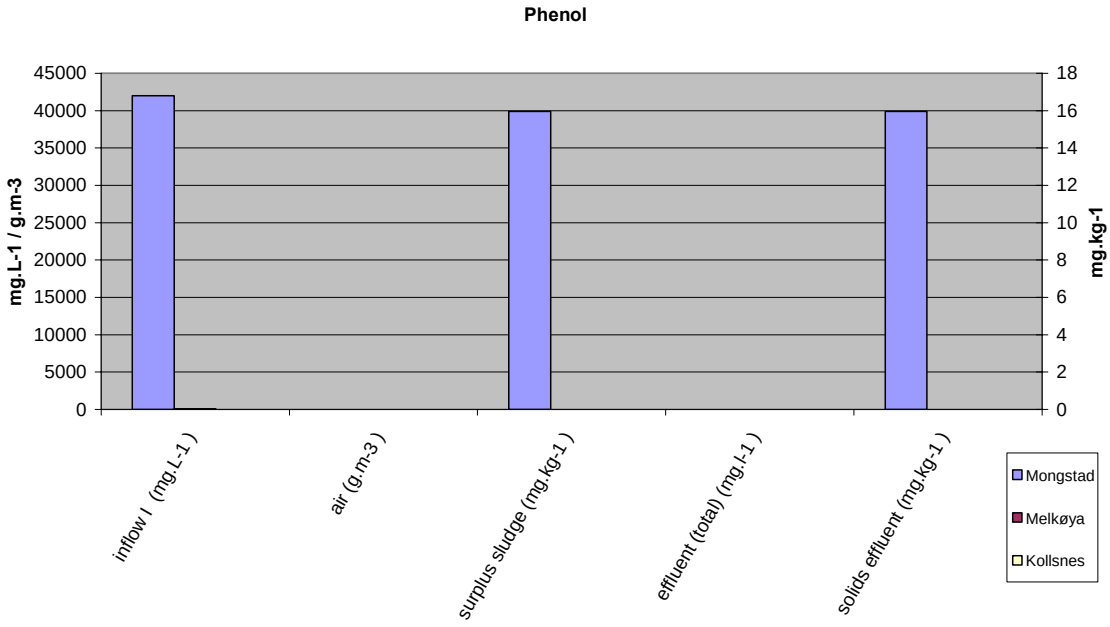


Figure 10 Comparison of phenol concentrations between the three WWTPs (6-box)

Also for Phenol (Figure 10) concentrations are much higher at Mongstand than elsewhere.

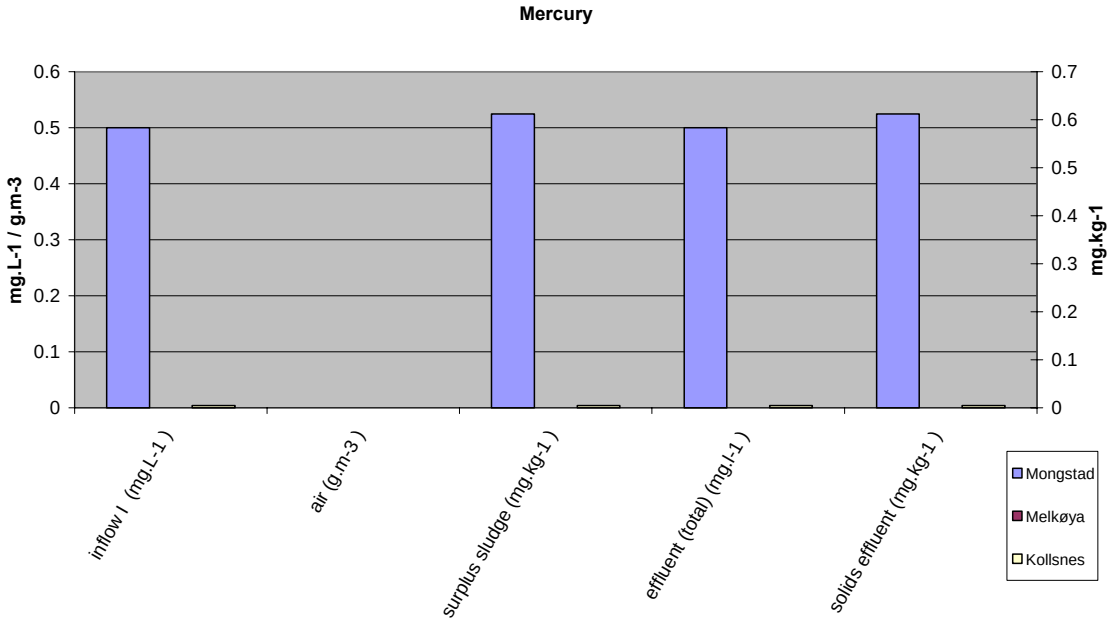


Figure 11 Comparison of mercury concentrations between the three WWTPs (6-box)

A situation apparently repeated for Mercury (iFigure 11). This is however deceptive. The 0.5 ml/l inflow concentration for Mercury is generated by the model (by design) when confronted with a 0 (zero) input value.

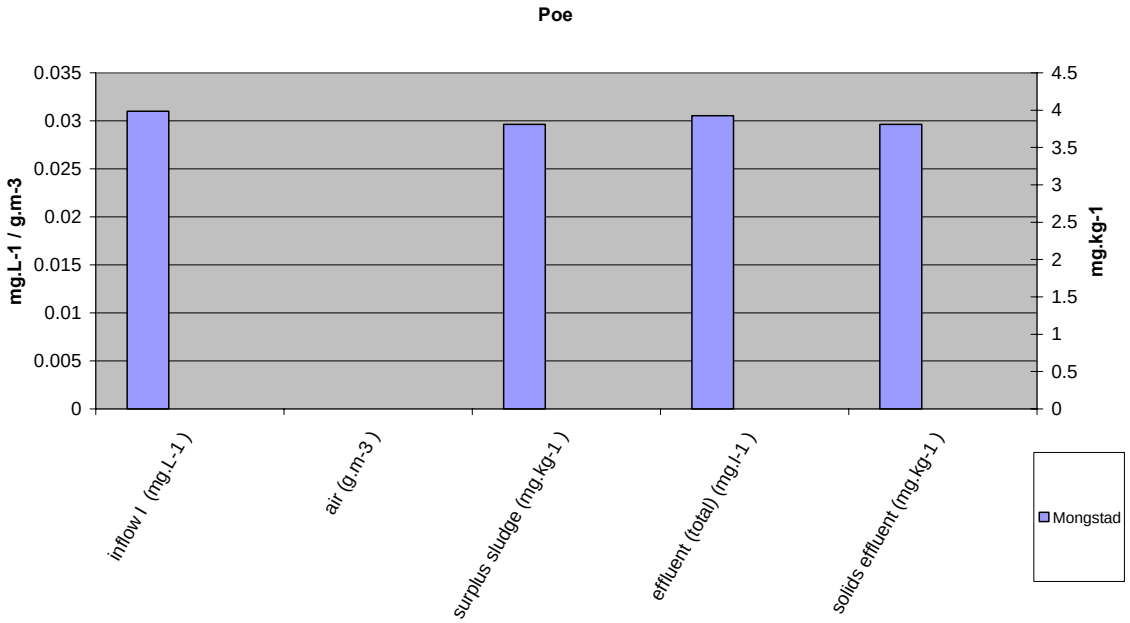


Figure 12 Performance the Mongstad WWTP for polyoxyethylene oleyl amine (6-box)

Polyoxyethylene oleyl amine is only used at Mongstad (Figure 12) almost all of the incoming compound is still present in the effluent.

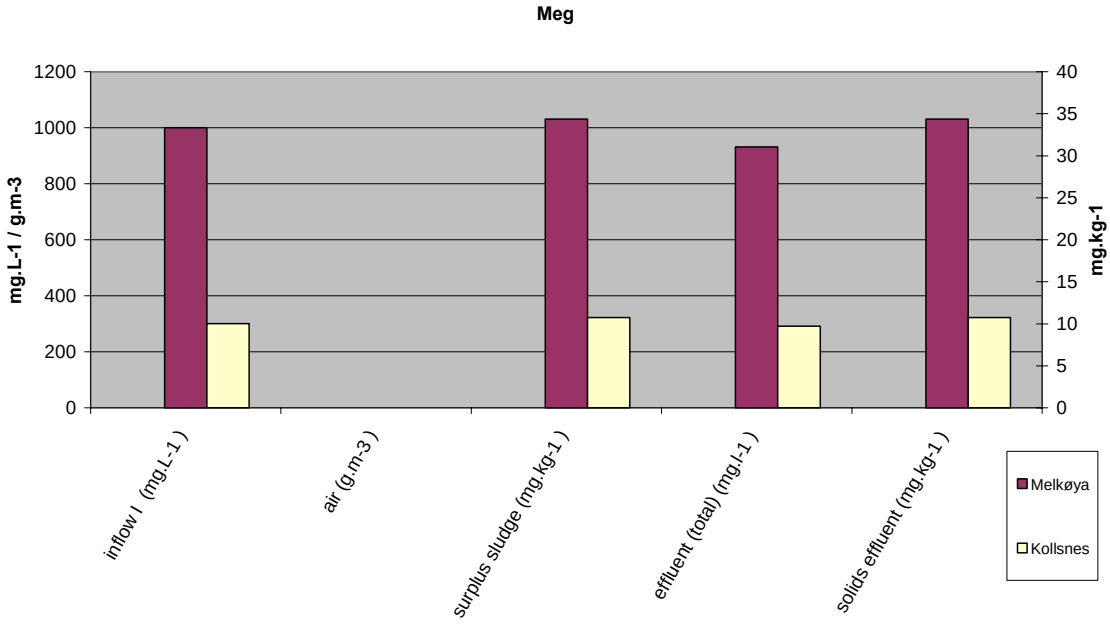


Figure 13 Comparison of monoethyleneglycol concentrations between the two WWTPs Melkøya en Kollsnes where this compound is present in the waste water (6-box)

Monoethyleneglycol (Meg) is used both at Melkøya and Kolsness (Figure 13) it is not volatile or susceptible to biodegradation (similar to Mercury and Poe), as a result the majority of the incoming compound is still present in the effluent.

5 Influence of parameters on the model

5.1 Compound related

In total, five compound related parameters (physico-chemical properties) were varied individually using two variations next to the initial or best known value (base case).
The compound related parameters changed included

- molecular weight,
- K_{ow},
- vapour pressure,
- solubility and the
- Henry constant (H).

The parameters were varied by setting at a lower value (95%) and at a higher value (105%) compared to the base case.

None of the variations made in the compound related parameters resulted in changes more than 5% in comparison to the base case. In conclusion, changing the compound related parameters does not affect the distribution or elimination of the compounds in the WWTP's beyond the expected change.

As an example the results for varying the value of the Henry constant are shown in Table 5, based on the Mongstad plant and Benzene. As the Henry constant influences volatilisation of the compound, the distribution across the compartments of the model changes accordingly. Also when more of the compound is left in the watercolumn (95% case), the importance of the biodegradation process increases somewhat relative to the base case. The changes found in the calculated concentration of benzene in the effluent are comparable with the changes in the input at about 5% or slightly less.

Table 5 Example calculation results for different values of the Henry constant. Results shown are for Mongstad, Benzene.

		Mo - B	Mo - B - 95%Hc	Mo - B - 105%Hc
Changed parameter				
Henry constant (H) =		557.3	529.4	585.2
Elimination in the aerator (%)				
stripping		48.3	46.4	50.1
biodegradation		6.7	7.0	6.5
total		55.0	53.3	56.6
Elimin♣ation in the solids liquid separator (%)				
volatilization		6.2	6.4	6.1
via surplus sludge		0.2	0.2	0.2
total		6.5	6.7	6.3
Total elimination from waste water (%)		61.4	60.0	62.8
Total emission via effluent (%)		38.6	40.0	37.2
% dissolved		38.6	40.0	37.2
% associated		0.0	0.0	0.0
balance		100.0	100.0	100.0
Summary of distribution (%)				
to air		54.5	52.8	56.1
to water		38.6	40.0	37.2
via surplus sludge		0.2	0.2	0.2
degraded		6.7	7.0	6.5
total		100.0	100.0	100.0
Concentrations				
in air	(g/m^3)	0.010	0.010	0.010
in surplus sludge	(mg/kg)	4519	4685	4359
in effluent (total)	(mg/L)	158	164	153
dissolved	(mg/L)	158	164	153
associated	(mg/L)	0.14	0.14	0.13
in solids effluent	(mg/kg)	4519	4685	4359
Operation of the plant				
Sludge loading rate =	(kg BOD/ (kg DWT.d))	0.121	0.121	0.121
HRT =	(hr)	13.4	13.4	13.4
SRT =	(d)	11.5	11.5	11.5
Aeration mode =		bubble aeration	bubble aeration	bubble aeration
Surplus sludge =	(kg DWT/d)	342	342	342

5.2 Climate

For the three climate parameters default values were used for determining the base case:

- Air temperature,
- Water temperature,
- Wind speed.

Changes in climate were based on average wind speed and air temperatures given for several locations in Norway (http://www.windfinder.com/wind-cgi/top_surfspots.pl?mode=statistic&country=no). This would give more realistic calculations for WWTP's in Norway. For speed of wind, the default value of 3 m/s reflects a light breeze, whereas variations used in the calculations reflect moderate breeze (6 m/s) to a fresh breeze (9 m/s). Average air temperatures measured in Norway range from 1-9°C. The default value of 15°C is, therefore, an overestimation of realistic temperatures. Variations calculated for the air and water temperature included 5 and 10°C. The climate parameters were calculated for all three WWTP's and all six compounds.

Varying the temperature did not show a clear difference compared to the base case. Variations in wind speed did show different concentrations of the compound in the air similar for all compounds and WWTP's. A moderate breeze resulted in 50% decrease of the concentration in air and the fresh breeze even decreased the concentration to 33% of the initial value. An illustration of this is given Table 6 for the Melkøya plant and Naphtalene

Table 6 Example calculation results for different values of windspeed. Results shown are for Melkøya, Naphtalene.

		Me - N	Me - N - wind6	Me - N - wind9
Changed parameter				
Windspeed =	(m/s)	3	6	9
Elimination in the aerator (%)				
stripping		33.7	33.7	33.7
biodegradation		26.6	26.6	26.6
total		60.4	60.4	60.4
Elimination in the solids liquid separator (%)				
volatilization		17.5	17.5	17.5
via surplus sludge		1.0	1.0	1.0
total		18.5	18.5	18.5
Total elimination from waste water (%)		78.8	78.8	78.8
Total emission via effluent (%)		21.2	21.2	21.2
% dissolved		21.0	21.0	21.0
% associated		0.2	0.2	0.2
balance		100.0	100.0	100.0
Summary of distribution (%)				
to air		51.2	51.2	51.2
to water		21.2	21.2	21.2
via surplus sludge		1.0	1.0	1.0
degraded		26.6	26.6	26.6
total		100.0	100.0	100.0
Concentrations				
in air	(g/m^3)	$2.1*10^{-06}$	$1.0*10^{-06}$	$6.8*10^{-07}$
in surplus sludge	(mg/kg)	82.3	82.3	82.3
in effluent (total)	(mg/L)	0.3	0.3	0.3
dissolved	(mg/L)	0.3	0.3	0.3
associated	(mg/L)	$2.5*10^{-03}$	$2.5*10^{-03}$	$2.5*10^{-03}$
in solids effluent	(mg/kg)	82.3	82.3	82.3
Operation of the plant				
Sludge loading rate =	(kg BOD/ (kg DWT.d))	0.013	0.013	0.013
HRT =	(hr)	128.9	128.9	128.9
SRT =	(d)	127.2	127.2	127.2
Aeration mode =		bubble	bubble	bubble
Surplus sludge =	(kg DWT/d)	11.7	11.7	11.7

5.3 Sewage

For the sewage related parameters, it was expected that the compounds and their behaviour would be most important to study. Therefore, the five sewage related parameters were differed individually and calculations were performed for all compounds and WWTP's. Sewage related parameters changed included:

- total daily sewage inflow,
- concentration of compound inflow,
- concentration of suspended solids of the raw sewage,
- sludge loading rate and
- type of aeration.

Variations were performed by setting the parameters at a lower value (95%) and at a higher value (105%) compared to the base case. For the sludge loading rate, only seven options are possible for input and therefore, a lower and a higher available value were used for the calculations. The type of aeration was varied between bubble and surface aeration.
Sludge loading rate was dropped form the final analysis based on the changes implemented in version 3.3, the exact SLR is now calculated. It is no longer possible to manipulate the SLR within the model as a separate parameter. Changing either total daily sewage inflow or the volume of the aerator basin, will result in a different SLR being used in the calculations.

Changing the total daily sewage inflow did not change distributions of compounds, or the effectiveness of the WWTP. The results for total daily sewage flow are shown in Table 7 for Mercury in the Kolsness plant. The only influence shown was in the operation of the plant, where the amount of surplus sludge changed with a percentage similar to the change in input. Adding a primary sedimentation system in the WWTP showed a shift in the results where the changed inflow was visible in the primary sludge and not anymore in the surplus sludge.

Variations made for the compound inflow showed similar changes in the concentrations in air, sludge and effluent. It did not affect the operation of the plant or the distributions. Including a primary sedimentation system had no effect.
Phenol was influenced by variations of the concentration suspended solids in raw sewage, although for Melkoya and Kollsness the absolute values were very low. Sample results for phenol and the Mongstad plant are available in Table 8. Similarly, changed percentages were noticed for concentrations in sludge and effluent. For other compounds, no change was detected in the output after varying the concentration suspended solids. Including a primary sedimentation system, resulted in changes for the primary sludge for all compounds.

Non-volatile compounds are not affected by changing the aeration from bubble aeration into surface aeration. The volatile compounds benzene, naphthalene and phenol are affected. Phenol, which has the highest Henry constant (H), shows a decrease in effectiveness of the stripping in the plant with a decrease of 4%. Benzene and naphthalene on the other hand, show an increase in efficiency of the stripping process in the plant of circa 35% and 12% respectively. These changes are reflected on the percentage biodegraded and volatilized in the plant as less substance was available for these processes. A small decrease was noticeable for benzene and naphthalene, but in total circa 28% more compound was removed for benzene and 10% more for naphthalene. Similar changes were visible in the distribution of the compounds. In the case of phenol, less ends up in the air and more goes towards the outflowing water, vice versa for benzene and naphthalene. Besides changes in distribution and efficiency of the plant, changes in the output of the concentrations in air, sludge and effluent are visible. See Table 9 for results from calculations switching the aeration mode between bubble and surface aeration for the Melkøya plant and the compounds benzene and phenol.

Table 7 Example calculation results for different values of total daily sewage flow. Results shown are for Kolsness, Mercury.

		Ko - M	Ko - M- 95%Q1	Ko - M- 105%Q1
Changed parameter				
Sewage flow daily total I =	(m^3/d)	120000	114000	126000
Elimination in the aerator (%)				
stripping		0.002	0.002	0.002
biodegradation		0.000	0.000	0.000
total		0.002	0.002	0.002
Elimination in the solids liquid separator (%)				
volatilization		0.000	0.000	0.000
via surplus sludge		0.018	0.018	0.018
total		0.019	0.019	0.019
Total elimination from waste water (%)		0.02	0.02	0.02
Total emission via effluent (%)		99.98	99.98	99.98
% dissolved		99.98	99.98	99.98
% associated		0.0	0.0	0.0
balance		100.0	100.0	100.0
Summary of distribution (%)				
to air		0.00	0.00	0.00
to water		99.98	99.98	99.98
via surplus sludge		0.02	0.02	0.02
degraded		0.00	0.00	0.00
total		100.00	100.00	100.00
Concentrations				
in air	(g/m3)	$6.3*10^{-13}$	$6.3*10^{-13}$	$6.3*10^{-13}$
in surplus sludge	(mg/kg)	0.005	0.005	0.005
in effluent (total)	(mg/L)	0.004	0.004	0.004
dissolved	(mg/L)	0.004	0.004	0.004
associated	(mg/L)	$1.4*10^{-07}$	$1.4*10^{-07}$	$1.4*10^{-07}$
in solids effluent	(mg/kg)	0.005	0.005	0.005
Operation of the plant				
Sludge loading rate =	(kg BOD/ (kg DWT.d))	0.032	0.031	0.034
HRT =	(hr)	50.2	52.8	47.8
SRT =	(d)	46.4	49.0	44.1
Aeration mode =		bubble aeration	bubble aeration	bubble aeration
Surplus sludge =	(kg DWT/d)	18.0	17.1	19.0

Table 8 Example calculation results for different values of the set of raw sewage parameters of input solids and carbon content of suspended solids. Results shown are for Mongstad, Phenol.

		Mo - Ph	Mo - Ph- 95%[SS]	Mo - Ph- 105%[SS]
Changed parameter				
Input solids in raw sewage =	(kg_{dwt}/(PE.d))	0.01	0.0095	0.0105
C susp solids raw sewage =	(kg_{dwt}/m^3)	0.05	0.0475	0.0525
Elimination in the aerator (%)				
stripping		100.0	100.0	100.0
biodegradation		0.0	0.0	0.0
total		100.0	100.0	100.0
Elimination in the solids liquid separator (%)				
volatilization		0.0	0.0	0.0
via surplus sludge		0.0	0.0	0.0
total		0.0	0.0	0.0
Total elimination from waste water (%)		100.0	100.0	100.0
Total emission via effluent (%)		0.0	0.0	0.0
% dissolved		0.0	0.0	0.0
% associated		0.0	0.0	0.0
balance		100.0	100.0	100.0
Summary of distribution (%)				
to air		100.0	100.0	100.0
to water		0.0	0.0	0.0
via surplus sludge		0.0	0.0	0.0
degraded		0.0	0.0	0.0
total		100.0	100.0	100.0
Concentrations				
in air	(g/m^3)	1.9	1.9	1.9
in surplus sludge	(mg/kg)	32.3	30.7	33.9
in effluent (total)	(mg/L)	$5.0*10^{-03}$	$4.7*10^{-03}$	$5.2*10^{-03}$
dissolved	(mg/L)	$4.0*10^{-03}$	$3.8*10^{-03}$	$4.2*10^{-03}$
associated	(mg/L)	$9.7*10^{-04}$	$9.2*10^{-04}$	$1.0*10^{-03}$
in solids effluent	(mg/kg)	32.3	30.7	33.9
Operation of the plant				
Sludge loading rate =	(kg BOD/ (kg DWT.d))	0.12	0.12	0.12
HRT =	(hr)	13.4	13.4	13.4
SRT =	(d)	11.5	11.5	11.5
Aeration mode =		bubble aeration	bubble aeration	bubble aeration
Surplus sludge =	(kg DWT/d)	338.1	338.1	338.1

Table 9 Example calculation results for both possible values of the aeration setting. Results shown are for Melkøya, Benzene and Phenol.

		Me - B	Me - B-surfacebubble	Me - Ph	Me - Ph-surfacebubble
Changed parameter					
Bubble or surface aeration: b/s		b	s	b	s
Elimination in the aerator (%)					
stripping		46.1	69.7	100.0	94.5
biodegradation		31.7	17.8	0.0	1.6
total		77.8	87.5	100.0	96.1
Elimination in the solids liquid separator (%)					
volatilization		12.1	6.8	0.0	2.2
via surplus sludge		0.1	0.0	0.0	0.0
total		12.2	6.9	0.0	2.2
Total elimination from waste water (%)		90.0	94.4	100.0	98.3
Total emission via effluent (%)		10.0	5.6	0.0	1.7
% dissolved		10.0	5.6	0.0	1.7
% associated		0.0	0.0	0.0	0.0
balance		100.0	100.0	100.0	100.0
Summary of distribution (%)					
to air		58.2	76.5	100.0	96.7
to water		10.0	5.6	0.0	1.7
via surplus sludge		0.1	0.0	0.0	0.0
degraded		31.7	17.8	0.0	1.6
total		100.0	100.0	100.0	100.0
Concentrations					
in air	(g/m3)	$1.2*10^{-05}$	0.0	$6.7*10^{-05}$	0.0
in surplus sludge	(mg/kg)	28.6	16.1	$1.2*10^{-05}$	4.7
in effluent (total)	(mg/L)	0.6	0.3	$7.8*10^{-09}$	0.3
dissolved	(mg/L)	0.6	0.3	$7.4*10^{-09}$	0.3
associated	(mg/L)	0.0	0.0	$3.7*10^{-10}$	0.0
in solids effluent	(mg/kg)	28.6	16.1	$1.2*10^{-05}$	4.7
Operation of the plant					
Sludge loading rate =	(kg BOD/ (kg DWT.d))	0.013	0.013	0.013	0.013
HRT =	(hr)	128.9	128.9	128.9	128.9
SRT =	(d)	127.2	127.2	127.2	127.2
Aeration mode =		bubble	surface	bubble	surface
Surplus sludge =	(kg DWT/d)	11.7	11.7	11.7	11.7

5.4 Biodegradation

Values for biodegradation were provided by StatoilHydro for the compounds. These values were varied using two alternatives next to the initial or best known value (base case). Additionally the temperature dependence was either set to 'no (default value)' or to 'yes', while the temperature of the water was changed as described earlier for the climate parameters.

The model does not appear to be sensitive for biodegradation in these cases. Only limited changes are shown when the combination of factors is set on most extreme values (varied biodegradation, lowest temperature and temperature dependence set to yes). Table 10 shows model results for the Kolsness plant and naphthalene.

Table 10 Example calculation results for different settings influencing biodegradation. Results shown are for Kolsness, Naphtalene.

		Ko - N	Ko - N- 95%k biodeg	Ko - N- 105%k biodeg	Ko - N- 95%k biodeg T5
Changed parameter					
T water =	(°C)	15	15	15	5.0
Temperature dependence (y/n)		n	n	n	y
k biodeg1 =	(1/d)	0.005833	0.005542	0.006125	0.005542
Elimination in the aerator (%)					
stripping		30.3	30.6	30.1	33.8
biodegradation		15.3	14.6	15.9	5.7
total		45.6	45.2	46.0	39.5
Elimination in the solids liquid separator (%)					
volatilization		3.4	3.5	3.4	3.8
via surplus sludge		1.7	1.7	1.7	1.9
total		5.1	5.2	5.1	5.7
Total elimination from waste water (%)		50.8	50.4	51.1	45.2
Total emission via effluent (%)		49.1	49.6	48.9	54.8
% dissolved		48.9	49.3	48.5	54.5
% associated		0.3	0.3	0.3	0.4
balance		100.0	100.0	100.0	100.0
Summary of distribution (%)					
to air		33.8	34.0	33.5	37.6
to water		49.2	49.6	48.9	54.8
via surplus sludge		1.7	1.7	1.7	1.9
degraded		15.3	14.6	15.9	5.7
total		100.0	100.0	100.0	100.0
Concentrations					
in air	(g/m3)	$1.4*10^{-06}$	$1.4*10^{-06}$	$1.4*10^{-06}$	$1.5*10^{-06}$
in surplus sludge	(mg/kg)	68.4	68.9	67.9	76.2
in effluent (total)	(mg/L)	0.3	0.3	0.3	0.3
dissolved	(mg/L)	0.3	0.3	0.3	0.3
associated	(mg/L)	0.0	0.0	0.0	0.0
in solids effluent	(mg/kg)	68.4	68.9	67.9	76.2
Operation of the plant					
Sludge loading rate =	(kg BOD/ (kg DWT.d))	0.032	0.032	0.032	0.032
HRT =	(hr)	50.2	50.2	50.2	50.2
SRT =	(d)	46.4	46.4	46.4	46.4
Aeration mode =		bubble aeration	bubble aeration	bubble aeration	bubble aeration
Surplus sludge =	(kg DWT/d)	18.0	18.0	18.0	18.0

5.5 Extra: size of the primary settler

As a primary settler was not included in the WWTP's, but shown to be an improvement as described by Struijs (1996) a small system was included in the 9-box, throughout all previous calculations. Influence of the size of a primary settler, however, was not included. Therefore, extra calculations with changing settler size were performed.

Varying the size of the primary settler shows changes in both the distribution as the efficiency of the plant, resulting in different output concentrations for the volatile compounds (phenol, benzene and naphthalene). A shallow system allows high volatilization in the settler, while deep systems do not affect the distribution or the efficiency of the plant.

6 Conclusions and recommendations

The final conclusion of the sensitivity analysis is that SimpleTreat.i does not have a specific sensitivity towards any of the parameters. For all investigated cases the resulting change in the output closely matches with the applied change to the input parameters expressed as a percentage. When considering sensitivity, changing an input value by a single percentage point will have a larger effect when it is a larger number. From this point of view more confidence regarding the larger numbers being used as input to the model may seem desirable. However this does touch on the next point to consider when working with models: uncertainty.
Uncertainty is often larger for smaller numbers (certainly on a relative scale) and/or for quantities that are more difficult to measure accurately.
For a given plant sewage flows and compound concentrations are likely to qualify as values that can be known accurately and with a high degree of certainty. A provision that has to be made here is that a reliable technique for measuring the compound needs to exist. Compound characteristics such as Kow, vapour pressure and biodegradation values fall into the category of values that are harder to quantify.

7 Quality Assurance

IMARES utilises an ISO 9001:2000 certified quality management system (certificate number: 08602-2004-AQ-ROT-RvA). This certificate is valid until 15 December 2009. The organisation has been certified since 27 February 2001. The certification was issued by DNV Certification B.V. Furthermore, the chemical laboratory of the Environmental Division has NEN-AND-ISO/IEC 17025:2005 accreditation for test laboratories with number L097. This accreditation is valid until 27 March 2009 and was first issued on 27 March 1997. Accreditation was granted by the Council for Accreditation, with the last inspection being held on the 5th of October 2007.

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Justification

Rapport C058/09
Project Number: 4305100201

The scientific quality of this report has been peer reviewed by the a colleague scientist and the head of the department of Wageningen IMARES.

Approved: Dr. N.H.B.M. Kaag
Scientist

Signature:

Date: 16-06-2009

Approved: J.H.M. Schobben MSc
Head of department Environment

Signature:

Date: 16-06-2009

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Annex A: Listing of sensitivity analysis results

Number of pages: 27

Coding of cases

Plants: (part 1) :

Mo = Mongstad, Me = Melkoya, Ko = Kollsnes

Compound: (part 2) :

B = Benzene, N = Naphtalene, Ph = Phenol, M = Mercury (Hg), Poe = Polyoxyethylene oleyl amine

Parameters: (part 3)

MM = Molecular weight, Kow = Kow (octanol-water partitioning coefficient), Vp = vapour pressure,
Sol = Solubility, Hc = Henry constant,
Txair = Air temperature, Txwater = Water temperature, windx = Wind speed
Q1 = Sewage flow daily total, [c]inflow= compound concentration in inflow, SLR = sludge loading rate,
[SS] = concentration suspended solids in raw sewage, surfacebubble = aeration type (surface or bubble)
k biodeg = biodegradation rate constant
PSS = primary settling basin size

Tab-identifier >	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input
		Characterisation of the chemical										Emission scenario			Sewage											Biodegradation			
Case Identifier	Name compound =	Molecular weight =	Kow =	Vapour pressure =	Solubility =	Ka =	Kb =	Henry constant (H) =	Kp (raw sewage) =	Kp (activated sludge) =	T air =	T water =	Windspeed =	Operating mode : M/I	Sewage flow daily total I =	C compound inflow I =	Volume aerator	Sludge loading rate (tatile 1) =	Bubble or surface aeration: b/s	Input solids in raw sewage =	C susp solids raw sewage =	Temperature dependence (y/n)	method 1: k biodeg1 =	method 2: k biodeg2 =	method 3: mmax =	Ks =
Unit >	(-)	g mol-1	(-)	Pa	mg L-1	(-)	(-)	Pa m3 mol-1	L kgdwt-1	L kgdwt-1	centigrade	centigrade	m s-1	(-)	L d-1	mg L-1	m-3	kgBOD kgdwt-1 d-1	(-)	kgdwt PE-1 d-1	kgdwt m-3	(-)	hr-1	hr-1	d-1	mg L-
Phase 0: Basic data; 3 WWTP's (Mongstad, Melkoya, Kollsnes)											default = 15	default= 15	default = 3					default = 0.15 (medium)				*SS in/low*				
Mo - B	Benzene	78.11	134.896	9999	1770			557.2875			15	15	3		2065000	410	1150	0.15	b	0.01	0.05	n	0.01125			
Mo - N	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3		2065000	270	1150	0.15	b	0.01	0.05	n	0.00583333			
Mo - Ph	Phenol	94.111	29	48	70000			3.04E+12			15	15	3		2065000	42000	1150	0.15	b	0.01	0.05	n	0.00329167			
Mo - M	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3		2065000	0	1150	0.15	b	0.01	0.05	n	0			
Mo - Poe	Polyoxyethylene oleyl amine	100	1000	1	0.0764			6.00E-04			15	15	3		2065000	0.031	1150	0.15	b	0.01	0.05	n	0			
Me - B	Benzene	78.11	135	9999	1770			557.2875			15	15	3		84000	6.1	451	0.15	b	0.0001	0.0005	n	0.01125			
Me - N	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3		84000	1.2	451	0.15	b	0.0001	0.0005	n	0.00583333			
Me - Ph	Phenol	94.111	29	48	70000			3.04E+12			15	15	3		84000	20	451	0.15	b	0.0001	0.0005	n	0.00329167			
Me - M	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3		84000	0.00004	451	0.15	b	0.0001	0.0005	n	0			
Me - Meg	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	15	3		84000	1000	451	0.15	b	0.0001	0.0005	n	0.0008875			
Ko - B	Benzene	78.11	135	9999	1770			557.2875			15	15	3		120000	150	251	0.15	b	0.0001	0.0005	n	0.01125			
Ko - N	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3		120000	6.1	251	0.15	b	0.0001	0.0005	n	0.00583333			
Ko - Ph	Phenol	94.111	29	48	70000			3.04E+12			15	15	3		120000	6.3	251	0.15	b	0.0001	0.0005	n	0.00329167			
Ko - M	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3		120000	0.0039	251	0.15	b	0.0001	0.0005	n	0			
Ko - Meg	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	15	3		120000	300	251	0.15	b	0.0001	0.0005	n	0.0008875			
WWTP Mongstad																										
Phase 1: Compound related											default = 15	default= 15	default = 3					default = 0.15 (medium)				*SS in/low*				
Mo - B - 95%MM	Benzene	74.2045	135	9999	1770			557.2875			15	15	3		2065000	410	1150	0.15	b	0.01	0.05	n	0.01125			
Mo - N - 95%MM	Naphtalene	121.7805	1950	12	31.7			46.6095			15	15	3		2065000	270	1150	0.15	b	0.01	0.05	n	0.00583333			
Mo - Ph - 95%MM	Phenol	89.40545	29	48	70000			3.04E+12			15	15	3		2065000	42000	1150	0.15	b	0.01	0.05	n	0.00329167			
Mo - M - 95%MM	Mercury (Hg)	257.944	3	0	74000			6.00E-04			15	15	3		2065000	0	1150	0.15	b	0.01	0.05	n	0			
Mo - Poe - 95%MM	Polyoxyethylene oleyl amine	95	1000	1	0.0764			6.00E-04			15	15	3		2065000	0.031	1150	0.15	b	0.01	0.05	n	0			
Mo - B - 105%MM	Benzene	82.0155	135	9999	1770			557.2875			15	15	3		2065000	410	1150	0.15	b	0.01	0.05	n	0.01125			
Mo - N - 105%MM	Naphtalene	134.5995	1950	12	31.7			46.6095			15	15	3		2065000	270	1150	0.15	b	0.01	0.05	n	0.00583333			
Mo - Ph - 105%MM	Phenol	98.81655	29	48	70000			3.04E+12			15	15	3		2065000	42000	1150	0.15	b	0.01	0.05	n	0.00329167			
Mo - M - 105%MM	Mercury (Hg)	285.096	3	0	74000			6.00E-04			15	15	3		2065000	0	1150	0.15	b	0.01	0.05	n	0			
Mo - Poe - 105%MM	Polyoxyethylene oleyl amine	105	1000	1	0.0764			6.00E-04			15	15	3		2065000	0.031	1150	0.15	b	0.01	0.05	n	0			
Mo - B - 95%Kow	Benzene	78.11	128	9999	1770			557.2875			15	15	3		2065000	410	1150	0.15	b	0.01	0.05	n	0.01125			
Mo - N - 95%Kow	Naphtalene	128.19	1852	12	31.7			46.6095			15	15	3		2065000	270	1150	0.15	b	0.01	0.05	n	0.00583333			
Mo - Ph - 95%Kow	Phenol	94.111	27	48	70000			3.04E+12			15	15	3		2065000	42000	1150	0.15	b	0.01	0.05	n	0.00329167			
Mo - M - 95%Kow	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3		2065000	0	1150	0.15	b	0.01	0.05	n	0			
Mo - Poe - 95%Kow	Polyoxyethylene oleyl amine	100	950	1	0.0764			6.00E-04			15	15	3		2065000	0.031	1150	0.15	b	0.01	0.05	n	0			
Mo - B - 105%Kow	Benzene	78.11	142	9999	1770			557.2875			15	15	3		2065000	410	1150	0.15	b	0.01	0.05	n	0.01125			
Mo - N - 105%Kow	Naphtalene	128.19	2047	12	31.7			46.6095			15	15	3		2065000	270	1150	0.15	b	0.01	0.05	n	0.00583333			
Mo - Ph - 105%Kow	Phenol	94.111	30	48	70000			3.04E+12			15	15	3		2065000	42000	1150	0.15	b	0.01	0.05	n	0.00329167			
Mo - M - 105%Kow	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3		2065000	0	1150	0.15	b	0.01	0.05	n	0			
Mo - Poe - 105%Kow	Polyoxyethylene oleyl amine	100	1050	1	0.0764			6.00E-04			15	15	3		2065000	0.031	1150	0.15	b	0.01	0.05	n	0			
Mo - B - 95%Vp	Benzene	78.11	135	9499	1770			557.2875			15	15	3		2065000	410	1150	0.15	b	0.01	0.05	n	0.01125			
Mo - N - 95%Vp	Naphtalene	128.19	1950	11	31.7			46.6095			15	15	3		2065000	270	1150	0.15	b	0.01	0.05	n	0.00583333			
Mo - Ph - 95%Vp	Phenol	94.111	29	46	70000			3.04E+12			15	15	3		2065000	42000	1150	0.15	b	0.01	0.05	n	0.00329167			
Mo - M - 95%Vp	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3		2065000	0	1150	0.15	b	0.01	0.05	n	0			
Mo - Poe - 95%Vp	Polyoxyethylene oleyl amine	100	1000	1	0.0764			6.00E-04			15	15	3		2065000	0.031	1150	0.15	b	0.01	0.05	n	0			
Mo - B - 105%Vp	Benzene	78.11	135	10499	1770			557.2875			15	15	3		2065000	410	1150	0.15	b	0.01	0.05	n	0.01125			
Mo - N - 105%Vp	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3		2065000	270	1150	0.15	b	0.01	0.05	n	0.00583333			
Mo - Ph - 105%Vp	Phenol	94.111	29	50	70000			3.04E+12			15	15	3		2065000	42000	1150	0.15	b	0.01	0.05	n	0.00329167			
Mo - M - 105%Vp	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3		2065000	0	1150	0.15	b	0.01	0.05	n	0			
Mo - Poe - 105%Vp	Polyoxyethylene oleyl amine	100	1000	1	0.0764			6.00E-04			15	15	3		2065000	0.031	1150	0.15	b	0.01	0.05	n	0			
Mo - B - 95%Sol	Benzene	78.11	135	9999	1681.5			557.2875			15	15	3		2065000	410	1150	0.15	b	0.01	0.05	n	0.01125			
Mo - N - 95%Sol	Naphtalene	128.19	1950	12	30.115			46.6095			15	15	3		2065000	270	1150	0.15	b	0.01	0.05	n	0.00583333			
Mo - Ph - 95%Sol	Phenol	94.111	29	48	66500			3.04E+12			15	15	3		2065000	42000	1150	0.15	b	0.01	0.05	n	0.00329167			
Mo - M - 95%Sol	Mercury (Hg)	271.52	3	0	70300			6.00E-04			15	15	3		2065000	0	1150	0.15	b	0.01	0.05	n	0			
Mo - Poe - 95%Sol	Polyoxyethylene oleyl amine	100	1000	1	0.07258			6.00E-04			15	15	3		2065000	0.031	1150	0.15	b	0.01	0.05	n	0			
Mo - B - 105%Sol	Benzene	78.11	135	9999	1858.5			557.2875			15	15	3		2065000	410	1150	0.15	b	0.01	0.05	n	0.01125			
Mo - N - 105%Sol	Naphtalene	128.19	1950	12	33.285			46.6095			15	15	3		2065000	270	1150	0.15	b	0.01	0.05	n	0.00583333			
Mo - Ph - 105%Sol	Phenol	94.111	29	48	73500			3.04E+12			15	15	3		2065000	42000	1150	0.15	b	0.01	0.05	n	0.00329167			
Mo - M - 105%Sol	Mercury (Hg)	271.52	3	0	77700			6.00E-04			15	15	3		2065000	0	1150	0.15	b	0.01	0.05	n	0			
Mo - Poe - 105%Sol	Polyoxyethylene oleyl amine	100	1000	1	0.08022			6.00E-04			15	15	3		2065000	0.031	1150	0.15	b	0.01	0.05	n	0			
Mo - B - 95%Hc	Benzene	78.11	135	9999	1770			529.423125			15	15	3		2065000	410	1150	0.15	b	0.01	0.05	n	0.01125			
Mo - N - 95%Hc	Naphtalene	128.19	1950	12	31.7			44.279025			15	15	3		2065000	270	1150	0.15	b	0.01	0.05	n	0.00583333			
Mo - Ph - 95%Hc	Phenol	94.111	29	48	70000			2.89E+12			15	15	3		2065000	42000	1150	0.15	b	0.01	0.05	n	0.00329167			
Mo - M - 95%Hc	Mercury (Hg)	271.52	3	0	74000			0.00057			15	15	3		2065000	0	1150	0.15	b	0.01	0.05	n	0			
Mo - Poe - 95%Hc	Polyoxyethylene oleyl amine	100	1000	1	0.0764			0.00057			15	15	3		2065000	0.031	1150	0.15	b	0.01	0.05	n	0			
Mo - B - 105%Hc	Benzene	78.11	135	9999	1770			585.151875			15	15	3		2065000	410	1150	0.15	b	0.01	0.05	n	0.01125			
Mo - N - 105%Hc	Naphtalene	128.19	1950	12	31.7			48.939975			15	15	3		2065000	270	1150	0.15	b	0.01	0.05	n	0.00583333			
Mo - Ph - 105%Hc	Phenol	94.111	29	48	70000			3.03E+12			15	15	3		2065000	42000	1150	0.15	b	0.01	0.05	n	0.00329167			
Mo - M - 105%Hc	Mercury (Hg)	271.52	3	0	74000			0.00063			15	15	3		2065000	0	1150	0.15	b	0.01	0.05	n	0			
Mo - Poe - 105%Hc	Polyoxyethylene oleyl amine	100	1000	1	0.0764			0.00063			15	15	3		2065000	0.031	1150	0.15	b	0.01	0.05	n	0			

Tab-identifier >	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	output	output	output	output	output	output	output	output	output	output	output	output	output
									6-box								Elimination in the aerator			Elimination in the solids liquid separator			Total elimination from waste water	Total emission via effluent				Summary of distribution				
Case Identifier	Name compound =	Height air column =	Density solids raw sewage =	Fraction oc raw sewage =	BOD in raw sewage =	Depth aerator =	Oxygen concentration =	Aeration rate (1.31E-05) =	C activated sludge =	Fraction oc activated sludge =	Density solids activated sludge =	Depth SLS =	HRTSLS =	C susp solids SLS =	Fraction oc solids SLS =	Density solids SLS =	stripping	biodegradation	total	volatilization	via surplus sludge	total		% dissolved	% associated	balance	to air	to water	via surplus sludge	degraded	total
Unit >	(-)	m	kgdwt L-1	(-)	g BOD PE-1 d-1	m	kg O2 m-3	m3 s-1 PE-1	kgdwt m-3	(-)	kgdwt L-1	m	h	kgdwt m-3	(-)	kgdwt L-1	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Phase 0: Basic data; 3 WWTP's (Mongstad, Melkoya, Kollsn																															
Mo - B	Benzene	10	1.5	0.3	54	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	48.3	6.7	55.0	6.2	0.2	6.4	61.4	38.6	38.6	0.0	100.0	54.5	38.6	0.2	6.7	100.0
Mo - N	Naphtalene	10	1.5	0.3	54	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	10.6	6.2	16.8	8.0	2.8	10.8	27.6	72.4	71.9	0.5	100.0	18.6	72.4	2.8	6.2	100.0
Mo - Ph	Phenol	10	1.5	0.3	54	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Mo - M	Mercury (Hg)	10	1.5	0.3	54	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Mo - Poe	Polyoxyethylene oleyl amine	10	1.5	0.3	54	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	2.0	2.0	2.0	98.0	97.6	0.4	100.0	0.0	98.0	2.0	0.0	100.0
Me - B	Benzene	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	46.1	31.7	77.8	12.1	0.1	12.2	90.0	10.0	10.0	0.0	100.0	58.2	10.0	0.1	31.7	100.0
Me - N	Naphtalene	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	33.7	26.6	60.4	17.5	1.0	18.5	78.8	21.2	21.0	0.2	100.0	51.2	21.2	1.0	26.6	100.0
Me - Ph	Phenol	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Me - M	Mercury (Hg)	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Me - Meg	Monoethyleneglycol	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	10.3	10.3	0.0	0.0	0.0	10.3	89.7	89.7	0.0	100.0	0.1	89.7	0.0	10.3	100.0
Ko - B	Benzene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	54.2	16.5	70.7	2.7	0.1	2.8	73.5	26.5	26.5	0.0	100.0	56.9	26.5	0.1	16.5	100.0
Ko - N	Naphtalene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	30.3	15.3	45.6	3.4	1.7	5.1	50.8	49.2	48.9	0.3	100.0	33.8	49.2	1.7	15.3	100.0
Ko - Ph	Phenol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Ko - M	Mercury (Hg)	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Ko - Meg	Monoethyleneglycol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	4.3	4.3	0.0	0.0	0.0	4.3	95.7	95.7	0.0	100.0	0.0	95.7	0.0	4.3	100.0
WWTP Mongstad																															
Phase 1: Compound related																															
Mo - B - 95%MM	Benzene	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	48.3	6.7	55.0	6.2	0.2	6.4	61.4	38.6	38.6	0.0	100.0	54.5	38.6	0.2	6.7	100.0
Mo - N - 95%MM	Naphtalene	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	10.6	6.2	16.8	8.0	2.8	10.8	27.6	72.4	71.9	0.5	100.0	18.6	72.4	2.8	6.2	100.0
Mo - Ph - 95%MM	Phenol	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Mo - M - 95%MM	Mercury (Hg)	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Mo - Poe - 95%MM	Polyoxyethylene oleyl amine	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	2.0	2.0	2.0	98.0	97.6	0.4	100.0	0.0	98.0	2.0	0.0	100.0
Mo - B - 105%MM	Benzene	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	48.3	6.7	55.0	6.2	0.2	6.4	61.4	38.6	38.6	0.0	100.0	54.5	38.6	0.2	6.7	100.0
Mo - N - 105%MM	Naphtalene	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	10.6	6.2	16.8	8.0	2.8	10.8	27.6	72.4	71.9	0.5	100.0	18.6	72.4	2.8	6.2	100.0
Mo - Ph - 105%MM	Phenol	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Mo - M - 105%MM	Mercury (Hg)	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Mo - Poe - 105%MM	Polyoxyethylene oleyl amine	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	2.0	2.0	2.0	98.0	97.6	0.4	100.0	0.0	98.0	2.0	0.0	100.0
Mo - B - 95%Kow	Benzene	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	48.3	6.7	55.0	6.2	0.2	6.4	61.4	38.6	38.6	0.0	100.0	54.5	38.6	0.2	6.7	100.0
Mo - N - 95%Kow	Naphtalene	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	10.6	6.2	16.9	8.0	2.7	10.7	27.5	72.5	72.0	0.5	100.0	18.6	72.5	2.7	6.2	100.0
Mo - Ph - 95%Kow	Phenol	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Mo - M - 95%Kow	Mercury (Hg)	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Mo - Poe - 95%Kow	Polyoxyethylene oleyl amine	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	1.9	1.9	1.9	98.1	97.7	0.4	100.0	0.0	98.1	1.9	0.0	100.0
Mo - B - 105%Kow	Benzene	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	48.3	6.7	55.0	6.2	0.2	6.4	61.4	38.6	38.6	0.0	100.0	54.5	38.6	0.2	6.7	100.0
Mo - N - 105%Kow	Naphtalene	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	10.6	6.2	16.8	8.0	2.9	10.9	27.7	72.3	71.8	0.5	100.0	18.6	72.3	2.9	6.2	100.0
Mo - Ph - 105%Kow	Phenol	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Mo - M - 105%Kow	Mercury (Hg)	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Mo - Poe - 105%Kow	Polyoxyethylene oleyl amine	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	2.1	2.1	2.1	97.9	97.5	0.4	100.0	0.0	97.9	2.1	0.0	100.0
Mo - B - 95%Vp	Benzene	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	48.3	6.7	55.0	6.2	0.2	6.4	61.4	38.6	38.6	0.0	100.0	54.5	38.6	0.2	6.7	100.0
Mo - N - 95%Vp	Naphtalene	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	10.6	6.2	16.8	8.0	2.8	10.8	27.6	72.4	71.9	0.5	100.0	18.6	72.4	2.8	6.2	100.0
Mo - Ph - 95%Vp	Phenol	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Mo - M - 95%Vp	Mercury (Hg)	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Mo - Poe - 95%Vp	Polyoxyethylene oleyl amine	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	2.0	2.0	2.0	98.0	97.6	0.4	100.0	0.0	98.0	2.0	0.0	100.0
Mo - B - 105%Vp	Benzene	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	48.3	6.7	55.0	6.2	0.2	6.4	61.4	38.6	38.6	0.0	100.0	54.5	38.6	0.2	6.7	100.0
Mo - N - 105%Vp	Naphtalene	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	10.6	6.2	16.8	8.0	2.8	10.8	27.6	72.4	71.9	0.5	100.0	18.6	72.4	2.8	6.2	100.0
Mo - Ph - 105%Vp	Phenol	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Mo - M - 105%Vp	Mercury (Hg)	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Mo - Poe - 105%Vp	Polyoxyethylene oleyl amine	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	2.0	2.0	2.0	98.0	97.6	0.4	100.0	0.0	98.0	2.0	0.0	100.0
Mo - B - 95%Sol	Benzene	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	48.3	6.7	55.0	6.2	0.2	6.4	61.4	38.6	38.6	0.0	100.0	54.5	38.6	0.2	6.7	100.0
Mo - N - 95%Sol	Naphtalene	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	10.6	6.2	16.8	8.0	2.8	10.8	27.6	72.4	71.9	0.5	100.0	18.6	72.4	2.8	6.2	100.0
Mo - Ph - 95%Sol	Phenol	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Mo - M - 95%Sol	Mercury (Hg)	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Mo - Poe - 95%Sol	Polyoxyethylene oleyl amine	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	2.0	2.0	2.0	98.0	97.6	0.4	100.0	0.0	98.0	2.0	0.0	100.0
Mo - B - 105%Sol	Benzene	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	48.3	6.7	55.0	6.2	0.2	6.4	61.4	38.6	38.6	0.0	100.0	54.5	38.6	0.2	6.7	100.0
Mo - N - 105%Sol	Naphtalene	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	10.6	6.2	16.8	8.0	2.8	10.8	27.6	72.4	71.9	0.5	100.0	18.6	72.4	2.8	6.2	100.0
Mo - Ph - 105%Sol	Phenol	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Mo - M - 105%Sol	Mercury (Hg)	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Mo - Poe - 105%Sol	Polyoxyethylene oleyl amine	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	2.0	2.0	2.0	98.0	97.6	0.4	100.0	0.0	98.0	2.0	0.0	100.0
Mo - B - 95%Hc	Benzene	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	46.4	7.0	53.3	6.4	0.2	6.6	60.0	40.0	40.0	0.0	100.0	52.8	40.0	0.2	7.0	100.0
Mo - N - 95%Hc	Naphtalene	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	10.4	6.2	16.6	7.9	2.8	10.7	27.3	72.7	72.2	0.5	100.0	18.3	72.7	2.8	6.2	100.0
Mo - Ph - 95%Hc	Phenol	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Mo - M - 95%Hc	Mercury (Hg)	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Mo - Poe - 95%Hc	Polyoxyethylene oleyl amine	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	2.0	2.0	2.0	98.0	97.6	0.4	100.0	0.0	98.0	2.0	0.0	100.0
Mo - B - 105%Hc	Benzene	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	50.1	6.5	56.6	6.0	0.2	6.2	62.8	37.2	37.2	0.0	100.0	56.1	37.2	0.2	6.5	100.0
Mo - N - 105%Hc	Naphtalene	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	10.8	6.2	17.0	8.1	2.8	10.9	27.9	72.1	71.6	0.5	100.0	18.9	72.1	2.8	6.2	100.0
Mo - Ph - 105%Hc	Phenol	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Mo - M - 105%Hc	Mercury (Hg)	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Mo - Poe - 105%Hc	Polyoxyethylene oleyl amine	10	1.5	0.3	54	7	0.002	0.000013	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	2.0	2.0	2.0	98.0	97.6	0.4	100.0	0.0	98.0	2.0	0.0	100.0

Tab-identifier >	input	output	output	output	output	output	output	output		output	output	output	output	output	output
		Concentrations						Operation of the plant without primary settler							
Case Identifier	Name compound =	in air	in surplus sludge	in effluent (total)	dissolved	associated	in solids effluent	Sludge loading rate =		HRT =	SRT =	Aeration mode =	Surplus sludge =	Total wastewater =	
Unit >	(-)	g m-3	mg kg-1	mg l-1	mg l-1	mg l-1	mg kg-1	kg BOD (kg dw)-1 d-1		h	d	(-)	kg dry weight d-1	m3 d-1	
Phase 0: Basic data; 3 WWTP's (Mongstad, Melkoya, Kollsnes)															
Mo - B	Benzene	0.0	4518.7	158.3	158.2	0.1	4518.7	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - N	Naphtalene	0.0	46100.2	195.4	194.1	1.4	46100.2	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Ph	Phenol	1.9	32.3	0.0	0.0	0.0	32.3	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - M	Mercury (Hg)	0.0	0.6	0.5	0.5	0.0	0.6	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Poe	Polyoxyethylene oleyl amine	0.0	3.8	0.0	0.0	0.0	3.8	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Me - B	Benzene	0.0	28.6	0.6	0.6	0.0	28.6	0.013		128.9	127.2	bubble aeration	11.7	2065.0	
Me - N	Naphtalene	0.0	82.3	0.3	0.3	0.0	82.3	0.013		128.9	127.2	bubble aeration	11.7	2065.0	
Me - Ph	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.013		128.9	127.2	bubble aeration	11.7	2065.0	
Me - M	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.013		128.9	127.2	bubble aeration	11.7	2065.0	
Me - Meg	Monoethyleneglycol	0.0	33.1	896.8	896.8	0.0	33.1	0.013		128.9	127.2	bubble aeration	11.7	2065.0	
Ko - B	Benzene	0.0	1078.9	39.8	39.7	0.0	1078.9	0.032		50.2	46.4	bubble aeration	18.0	2065.0	
Ko - N	Naphtalene	0.0	68.4	0.3	0.3	0.0	68.4	0.032		50.2	46.4	bubble aeration	18.0	2065.0	
Ko - Ph	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.032		50.2	46.4	bubble aeration	18.0	2065.0	
Ko - M	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.032		50.2	46.4	bubble aeration	18.0	2065.0	
Ko - Meg	Monoethyleneglycol	0.0	10.6	287.1	287.1	0.0	10.6	0.032		50.2	46.4	bubble aeration	18.0	2065.0	
WWTP Mongstad															
Phase 1: Compound related															
Mo - B - 95%MM	Benzene	0.0	4518.7	158.3	158.2	0.1	4518.7	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - N - 95%MM	Naphtalene	0.0	46100.2	195.4	194.1	1.4	46100.2	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Ph - 95%MM	Phenol	1.9	32.3	0.0	0.0	0.0	32.3	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - M - 95%MM	Mercury (Hg)	0.0	0.6	0.5	0.5	0.0	0.6	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Poe - 95%MM	Polyoxyethylene oleyl amine	0.0	3.8	0.0	0.0	0.0	3.8	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - B - 105%MM	Benzene	0.0	4518.7	158.3	158.2	0.1	4518.7	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - N - 105%MM	Naphtalene	0.0	46100.2	195.4	194.1	1.4	46100.2	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Ph - 105%MM	Phenol	1.9	32.3	0.0	0.0	0.0	32.3	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - M - 105%MM	Mercury (Hg)	0.0	0.6	0.5	0.5	0.0	0.6	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Poe - 105%MM	Polyoxyethylene oleyl amine	0.0	3.8	0.0	0.0	0.0	3.8	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - B - 95%Kow	Benzene	0.0	4335.2	158.3	158.2	0.1	4335.2	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - N - 95%Kow	Naphtalene	0.0	44288.2	195.6	194.3	1.3	44288.2	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Ph - 95%Kow	Phenol	1.9	31.0	0.0	0.0	0.0	31.0	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - M - 95%Kow	Mercury (Hg)	0.0	0.6	0.5	0.5	0.0	0.6	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Poe - 95%Kow	Polyoxyethylene oleyl amine	0.0	3.6	0.0	0.0	0.0	3.6	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - B - 105%Kow	Benzene	0.0	4700.4	158.3	158.1	0.1	4700.4	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - N - 105%Kow	Naphtalene	0.0	47890.0	195.2	193.8	1.4	47890.0	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Ph - 105%Kow	Phenol	1.9	33.6	0.0	0.0	0.0	33.6	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - M - 105%Kow	Mercury (Hg)	0.0	0.6	0.5	0.5	0.0	0.6	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Poe - 105%Kow	Polyoxyethylene oleyl amine	0.0	3.9	0.0	0.0	0.0	3.9	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - B - 95%Vp	Benzene	0.0	4518.7	158.3	158.2	0.1	4518.7	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - N - 95%Vp	Naphtalene	0.0	46100.2	195.4	194.1	1.4	46100.2	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Ph - 95%Vp	Phenol	1.9	32.3	0.0	0.0	0.0	32.3	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - M - 95%Vp	Mercury (Hg)	0.0	0.6	0.5	0.5	0.0	0.6	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Poe - 95%Vp	Polyoxyethylene oleyl amine	0.0	3.8	0.0	0.0	0.0	3.8	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - B - 105%Vp	Benzene	0.0	4518.7	158.3	158.2	0.1	4518.7	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - N - 105%Vp	Naphtalene	0.0	46100.2	195.4	194.1	1.4	46100.2	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Ph - 105%Vp	Phenol	1.9	32.3	0.0	0.0	0.0	32.3	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - M - 105%Vp	Mercury (Hg)	0.0	0.6	0.5	0.5	0.0	0.6	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Poe - 105%Vp	Polyoxyethylene oleyl amine	0.0	3.8	0.0	0.0	0.0	3.8	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - B - 95%Sol	Benzene	0.0	4518.7	158.3	158.2	0.1	4518.7	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - N - 95%Sol	Naphtalene	0.0	46100.2	195.4	194.1	1.4	46100.2	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Ph - 95%Sol	Phenol	1.9	32.3	0.0	0.0	0.0	32.3	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - M - 95%Sol	Mercury (Hg)	0.0	0.6	0.5	0.5	0.0	0.6	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Poe - 95%Sol	Polyoxyethylene oleyl amine	0.0	3.8	0.0	0.0	0.0	3.8	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - B - 105%Sol	Benzene	0.0	4518.7	158.3	158.2	0.1	4518.7	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - N - 105%Sol	Naphtalene	0.0	46100.2	195.4	194.1	1.4	46100.2	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Ph - 105%Sol	Phenol	1.9	32.3	0.0	0.0	0.0	32.3	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - M - 105%Sol	Mercury (Hg)	0.0	0.6	0.5	0.5	0.0	0.6	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Poe - 105%Sol	Polyoxyethylene oleyl amine	0.0	3.8	0.0	0.0	0.0	3.8	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - B - 95%Hc	Benzene	0.0	4684.6	164.1	164.0	0.1	4684.6	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - N - 95%Hc	Naphtalene	0.0	46212.4	196.2	194.9	1.4	46212.4	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Ph - 95%Hc	Phenol	1.9	32.3	0.0	0.0	0.0	32.3	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - M - 95%Hc	Mercury (Hg)	0.0	0.6	0.5	0.5	0.0	0.6	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Poe - 95%Hc	Polyoxyethylene oleyl amine	0.0	3.8	0.0	0.0	0.0	3.8	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - B - 105%Hc	Benzene	0.0	4359.0	152.7	152.5	0.1	4359.0	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - N - 105%Hc	Naphtalene	0.0	45992.7	194.7	193.3	1.4	45992.7	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Ph - 105%Hc	Phenol	1.9	32.3	0.0	0.0	0.0	32.3	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - M - 105%Hc	Mercury (Hg)	0.0	0.6	0.5	0.5	0.0	0.6	0.121		13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Poe - 105%Hc	Polyoxyethylene oleyl amine	0.0	3.8	0.0	0.0	0.0	3.8	0.121		13.4	11.5	bubble aeration	338.1	2065.0	

Tab-identifier >	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input
		Characterisation of the chemical									Emission scenario			Sewage										Biodegradation			
Case Identifier	Name compound =	Molecular weight =	Kow =	Vapour pressure =	Solubility =	Ka =	Kb =	Henry constant (H) =	Kp (raw sewage) =	Kp (activated sludge) =	T air =	T water =	Windspeed =	Operating mode : M/I	Sewage flow daily total l =	C compound inflow l =	Volume aerator	Sludge loading rate (table 1) =	Bubble or surface aeration: b/s	Input solids in raw sewage =	C susp solids raw sewage =	Temperature dependence (y/n)	method 1: k biodeg1 =	method 2: k biodeg2 =	method 3: mmax =	Ks =
Phase 2a: Climate; temperature =n											default = 15	default= 15	default = 3					default = 0.15 (medium)				*SS inflow*				
Mo - B-T10air	Benzene	78.11	135	9999	1770			557.2875			10	15	3	I	2065000	410	1150	0.15	b	0.01	0.05	n	0.01125			
Mo - N-T10air	Naphtalene	128.19	1950	12	31.7			46.6095			10	15	3	I	2065000	270	1150	0.15	b	0.01	0.05	n	0.00583333			
Mo - Ph-T10air	Phenol	94.111	29	48	70000			3.04E+12			10	15	3	I	2065000	42000	1150	0.15	b	0.01	0.05	n	0.00329167			
Mo - M-T10air	Mercury (Hg)	271.52	3	0	74000			6.00E-04			10	15	3	I	2065000	0	1150	0.15	b	0.01	0.05	n	0			
Mo - Poe-T10air	Polyoxyethylene oleyl amine	100	1000	1	0.0764			6.00E-04			10	15	3	I	2065000	0.031	1150	0.15	b	0.01	0.05	n	0			
Mo - B-T5air	Benzene	78.11	135	9999	1770			557.2875			5	15	3	I	2065000	410	1150	0.15	b	0.01	0.05	n	0.01125			
Mo - N-T5air	Naphtalene	128.19	1950	12	31.7			46.6095			5	15	3	I	2065000	270	1150	0.15	b	0.01	0.05	n	0.00583333			
Mo - Ph-T5air	Phenol	94.111	29	48	70000			3.04E+12			5	15	3	I	2065000	42000	1150	0.15	b	0.01	0.05	n	0.00329167			
Mo - M-T5air	Mercury (Hg)	271.52	3	0	74000			6.00E-04			5	15	3	I	2065000	0	1150	0.15	b	0.01	0.05	n	0			
Mo - Poe-T5air	Polyoxyethylene oleyl amine	100	1000	1	0.0764			6.00E-04			5	15	3	I	2065000	0.031	1150	0.15	b	0.01	0.05	n	0			
Mo - B-T10water	Benzene	78.11	135	9999	1770			557.2875			15	10	3	I	2065000	410	1150	0.15	b	0.01	0.05	n	0.01125			
Mo - N-T10water	Naphtalene	128.19	1950	12	31.7			46.6095			15	10	3	I	2065000	270	1150	0.15	b	0.01	0.05	n	0.00583333			
Mo - Ph-T10water	Phenol	94.111	29	48	70000			3.04E+12			15	10	3	I	2065000	42000	1150	0.15	b	0.01	0.05	n	0.00329167			
Mo - M-T10water	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	10	3	I	2065000	0	1150	0.15	b	0.01	0.05	n	0			
Mo - Poe-T10water	Polyoxyethylene oleyl amine	100	1000	1	0.0764			6.00E-04			15	10	3	I	2065000	0.031	1150	0.15	b	0.01	0.05	n	0			
Mo - B-T5water	Benzene	78.11	135	9999	1770			557.2875			15	5	3	I	2065000	410	1150	0.15	b	0.01	0.05	n	0.01125			
Mo - N-T5water	Naphtalene	128.19	1950	12	31.7			46.6095			15	5	3	I	2065000	270	1150	0.15	b	0.01	0.05	n	0.00583333			
Mo - Ph-T5water	Phenol	94.111	29	48	70000			3.04E+12			15	5	3	I	2065000	42000	1150	0.15	b	0.01	0.05	n	0.00329167			
Mo - M-T5water	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	5	3	I	2065000	0	1150	0.15	b	0.01	0.05	n	0			
Mo - Poe-T5water	Polyoxyethylene oleyl amine	100	1000	1	0.0764			6.00E-04			15	5	3	I	2065000	0.031	1150	0.15	b	0.01	0.05	n	0			
Mo - B-wind6	Benzene	78.11	135	9999	1770			557.2875			15	15	6	I	2065000	410	1150	0.15	b	0.01	0.05	n	0.01125			
Mo - N-wind6	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	6	I	2065000	270	1150	0.15	b	0.01	0.05	n	0.00583333			
Mo - Ph-wind6	Phenol	94.111	29	48	70000			3.04E+12			15	15	6	I	2065000	42000	1150	0.15	b	0.01	0.05	n	0.00329167			
Mo - M-wind6	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	6	I	2065000	0	1150	0.15	b	0.01	0.05	n	0			
Mo - Poe-wind6	Polyoxyethylene oleyl amine	100	1000	1	0.0764			6.00E-04			15	15	6	I	2065000	0.031	1150	0.15	b	0.01	0.05	n	0			
Mo - B-wind9	Benzene	78.11	135	9999	1770			557.2875			15	15	9	I	2065000	410	1150	0.15	b	0.01	0.05	n	0.01125			
Mo - N-wind9	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	9	I	2065000	270	1150	0.15	b	0.01	0.05	n	0.00583333			
Mo - Ph-wind9	Phenol	94.111	29	48	70000			3.04E+12			15	15	9	I	2065000	42000	1150	0.15	b	0.01	0.05	n	0.00329167			
Mo - M-wind9	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	9	I	2065000	0	1150	0.15	b	0.01	0.05	n	0			
Mo - Poe-wind9	Polyoxyethylene oleyl amine	100	1000	1	0.0764			6.00E-04			15	15	9	I	2065000	0.031	1150	0.15	b	0.01	0.05	n	0			
Phase 2a: Climate; temperature =y											default = 15	default= 15	default = 3					default = 0.15 (medium)				*SS inflow*				
Mo - B-T10air	Benzene	78.11	135	9999	1770			557.2875			10	15	3	I	2065000	410	1150	0.15	b	0.01	0.05	n	0.01125			
Mo - N-T10air	Naphtalene	128.19	1950	12	31.7			46.6095			10	15	3	I	2065000	270	1150	0.15	b	0.01	0.05	n	0.00583333			
Mo - Ph-T10air	Phenol	94.111	29	48	70000			3.04E+12			10	15	3	I	2065000	42000	1150	0.15	b	0.01	0.05	n	0.00329167			
Mo - M-T10air	Mercury (Hg)	271.52	3	0	74000			6.00E-04			10	15	3	I	2065000	0	1150	0.15	b	0.01	0.05	n	0			
Mo - Poe-T10air	Polyoxyethylene oleyl amine	100	1000	1	0.0764			6.00E-04			10	15	3	I	2065000	0.031	1150	0.15	b	0.01	0.05	n	0			
Mo - B-T5air	Benzene	78.11	135	9999	1770			557.2875			5	15	3	I	2065000	410	1150	0.15	b	0.01	0.05	n	0.01125			
Mo - N-T5air	Naphtalene	128.19	1950	12	31.7			46.6095			5	15	3	I	2065000	270	1150	0.15	b	0.01	0.05	n	0.00583333			
Mo - Ph-T5air	Phenol	94.111	29	48	70000			3.04E+12			5	15	3	I	2065000	42000	1150	0.15	b	0.01	0.05	n	0.00329167			
Mo - M-T5air	Mercury (Hg)	271.52	3	0	74000			6.00E-04			5	15	3	I	2065000	0	1150	0.15	b	0.01	0.05	n	0			
Mo - Poe-T5air	Polyoxyethylene oleyl amine	100	1000	1	0.0764			6.00E-04			5	15	3	I	2065000	0.031	1150	0.15	b	0.01	0.05	n	0			
Mo - B-T10water	Benzene	78.11	135	9999	1770			557.2875			15	10	3	I	2065000	410	1150	0.15	b	0.01	0.05	n	0.01125			
Mo - N-T10water	Naphtalene	128.19	1950	12	31.7			46.6095			15	10	3	I	2065000	270	1150	0.15	b	0.01	0.05	n	0.00583333			
Mo - Ph-T10water	Phenol	94.111	29	48	70000			3.04E+12			15	10	3	I	2065000	42000	1150	0.15	b	0.01	0.05	n	0.00329167			
Mo - M-T10water	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	10	3	I	2065000	0	1150	0.15	b	0.01	0.05	n	0			
Mo - Poe-T10water	Polyoxyethylene oleyl amine	100	1000	1	0.0764			6.00E-04			15	10	3	I	2065000	0.031	1150	0.15	b	0.01	0.05	n	0			
Mo - B-T5water	Benzene	78.11	135	9999	1770			557.2875			15	5	3	I	2065000	410	1150	0.15	b	0.01	0.05	n	0.01125			
Mo - N-T5water	Naphtalene	128.19	1950	12	31.7			46.6095			15	5	3	I	2065000	270	1150	0.15	b	0.01	0.05	n	0.00583333			
Mo - Ph-T5water	Phenol	94.111	29	48	70000			3.04E+12			15	5	3	I	2065000	42000	1150	0.15	b	0.01	0.05	n	0.00329167			
Mo - M-T5water	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	5	3	I	2065000	0	1150	0.15	b	0.01	0.05	n	0			
Mo - Poe-T5water	Polyoxyethylene oleyl amine	100	1000	1	0.0764			6.00E-04			15	5	3	I	2065000	0.031	1150	0.15	b	0.01	0.05	n	0			
Mo - B-wind6	Benzene	78.11	135	9999	1770			557.2875			15	15	6	I	2065000	410	1150	0.15	b	0.01	0.05	n	0.01125			
Mo - N-wind6	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	6	I	2065000	270	1150	0.15	b	0.01	0.05	n	0.00583333			
Mo - Ph-wind6	Phenol	94.111	29	48	70000			3.04E+12			15	15	6	I	2065000	42000	1150	0.15	b	0.01	0.05	n	0.00329167			
Mo - M-wind6	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	6	I	2065000	0	1150	0.15	b	0.01	0.05	n	0			
Mo - Poe-wind6	Polyoxyethylene oleyl amine	100	1000	1	0.0764			6.00E-04			15	15	6	I	2065000	0.031	1150	0.15	b	0.01	0.05	n	0			
Mo - B-wind9	Benzene	78.11	135	9999	1770			557.2875			15	15	9	I	2065000	410	1150	0.15	b	0.01	0.05	n	0.01125			
Mo - N-wind9	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	9	I	2065000	270	1150	0.15	b	0.01	0.05	n	0.00583333			
Mo - Ph-wind9	Phenol	94.111	29	48	70000			3.04E+12			15	15	9	I	2065000	42000	1150	0.15	b	0.01	0.05	n	0.00329167			
Mo - M-wind9	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	9	I	2065000	0	1150	0.15	b	0.01	0.05	n	0			
Mo - Poe-wind9	Polyoxyethylene oleyl amine	100	1000	1	0.0764			6.00E-04			15	15	9	I	2065000	0.031	1150	0.15	b	0.01	0.05	n	0			

Tab-identifier >	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	output	output	output	output	output	output	output	output	output	output	output	output	output
									6-box								Elimination in the aerator			Elimination in the solids liquid separator			Total elimination from waste water	Total emission via effluent				Summary of distribution				
Case Identifier	Name compound =	Height air column =	Density solids raw sewage =	Fraction oc raw sewage =	BOD in raw sewage =	Depth aerator =	Oxygen concentration =	Aeration rate (1.31E-05) =	C activated sludge =	Fraction oc activated sludge =	Density solids activated sludge =	Depth SLS =	HRTSLS =	C susp solids SLS =	Fraction oc solids SLS =	Density solids SLS =	stripping	biodegradation	total	volatilization	via surplus sludge	total		% dissolved	% associated	balance	to air	to water	via surplus sludge	degraded	total
Phase 2a: Climate; temperature =n																															
Mo - B-T10air	Benzene	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	48.5	6.7	55.2	6.2	0.2	6.4	61.6	38.4	38.4	0.0	100.0	54.7	38.4	0.2	6.7	100.0
Mo - N-T10air	Naphtalene	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	10.7	6.2	16.9	8.0	2.8	10.8	27.7	72.3	71.8	0.5	100.0	18.7	72.3	2.8	6.2	100.0
Mo - Ph-T10air	Phenol	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Mo - M-T10air	Mercury (Hg)	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Mo - Poe-T10air	Polyoxyethylene oleyl amine	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	2.0	2.0	2.0	98.0	97.6	0.4	100.0	0.0	98.0	2.0	0.0	100.0
Mo - B-T5air	Benzene	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	48.8	6.7	55.5	6.2	0.2	6.3	61.8	38.2	38.2	0.0	100.0	55.0	38.2	0.2	6.7	100.0
Mo - N-T5air	Naphtalene	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	10.8	6.2	17.0	8.1	2.8	10.8	27.8	72.2	71.7	0.5	100.0	18.8	72.2	2.8	6.2	100.0
Mo - Ph-T5air	Phenol	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Mo - M-T5air	Mercury (Hg)	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Mo - Poe-T5air	Polyoxyethylene oleyl amine	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	2.0	2.0	2.0	98.0	97.6	0.4	100.0	0.0	98.0	2.0	0.0	100.0
Mo - B-T10water	Benzene	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	48.3	6.7	55.0	6.2	0.2	6.4	61.4	38.6	38.6	0.0	100.0	54.5	38.6	0.2	6.7	100.0
Mo - N-T10water	Naphtalene	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	10.6	6.2	16.8	8.0	2.8	10.8	27.6	72.4	71.9	0.5	100.0	18.6	72.4	2.8	6.2	100.0
Mo - Ph-T10water	Phenol	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Mo - M-T10water	Mercury (Hg)	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Mo - Poe-T10water	Polyoxyethylene oleyl amine	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	2.0	2.0	2.0	98.0	97.6	0.4	100.0	0.0	98.0	2.0	0.0	100.0
Mo - B-T5water	Benzene	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	48.3	6.7	55.0	6.2	0.2	6.4	61.4	38.6	38.6	0.0	100.0	54.5	38.6	0.2	6.7	100.0
Mo - N-T5water	Naphtalene	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	10.6	6.2	16.8	8.0	2.8	10.8	27.6	72.4	71.9	0.5	100.0	18.6	72.4	2.8	6.2	100.0
Mo - Ph-T5water	Phenol	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Mo - M-T5water	Mercury (Hg)	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Mo - Poe-T5water	Polyoxyethylene oleyl amine	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	2.0	2.0	2.0	98.0	97.6	0.4	100.0	0.0	98.0	2.0	0.0	100.0
Mo - B-wind6	Benzene	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	48.3	6.7	55.0	6.2	0.2	6.4	61.4	38.6	38.6	0.0	100.0	54.5	38.6	0.2	6.7	100.0
Mo - N-wind6	Naphtalene	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	10.6	6.2	16.8	8.0	2.8	10.8	27.6	72.4	71.9	0.5	100.0	18.6	72.4	2.8	6.2	100.0
Mo - Ph-wind6	Phenol	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Mo - M-wind6	Mercury (Hg)	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Mo - Poe-wind6	Polyoxyethylene oleyl amine	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	2.0	2.0	2.0	98.0	97.6	0.4	100.0	0.0	98.0	2.0	0.0	100.0
Mo - B-wind9	Benzene	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	48.3	6.7	55.0	6.2	0.2	6.4	61.4	38.6	38.6	0.0	100.0	54.5	38.6	0.2	6.7	100.0
Mo - N-wind9	Naphtalene	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	10.6	6.2	16.8	8.0	2.8	10.8	27.6	72.4	71.9	0.5	100.0	18.6	72.4	2.8	6.2	100.0
Mo - Ph-wind9	Phenol	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Mo - M-wind9	Mercury (Hg)	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Mo - Poe-wind9	Polyoxyethylene oleyl amine	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	2.0	2.0	2.0	98.0	97.6	0.4	100.0	0.0	98.0	2.0	0.0	100.0
Phase 2a: Climate; temperature =y																															
Mo - B-T10air	Benzene	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	48.5	6.7	55.2	6.2	0.2	6.4	61.6	38.4	38.4	0.0	100.0	54.7	38.4	0.2	6.7	100.0
Mo - N-T10air	Naphtalene	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	10.7	6.2	16.9	8.0	2.8	10.8	27.7	72.3	71.8	0.5	100.0	18.7	72.3	2.8	6.2	100.0
Mo - Ph-T10air	Phenol	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Mo - M-T10air	Mercury (Hg)	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Mo - Poe-T10air	Polyoxyethylene oleyl amine	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	2.0	2.0	2.0	98.0	97.6	0.4	100.0	0.0	98.0	2.0	0.0	100.0
Mo - B-T5air	Benzene	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	48.8	6.7	55.5	6.2	0.2	6.3	61.8	38.2	38.2	0.0	100.0	55.0	38.2	0.2	6.7	100.0
Mo - N-T5air	Naphtalene	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	10.8	6.2	17.0	8.1	2.8	10.8	27.8	72.2	71.7	0.5	100.0	18.8	72.2	2.8	6.2	100.0
Mo - Ph-T5air	Phenol	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Mo - M-T5air	Mercury (Hg)	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Mo - Poe-T5air	Polyoxyethylene oleyl amine	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	2.0	2.0	2.0	98.0	97.6	0.4	100.0	0.0	98.0	2.0	0.0	100.0
Mo - B-T10water	Benzene	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	48.3	6.7	55.0	6.2	0.2	6.4	61.4	38.6	38.6	0.0	100.0	54.5	38.6	0.2	6.7	100.0
Mo - N-T10water	Naphtalene	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	10.6	6.2	16.8	8.0	2.8	10.8	27.6	72.4	71.9	0.5	100.0	18.6	72.4	2.8	6.2	100.0
Mo - Ph-T10water	Phenol	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Mo - M-T10water	Mercury (Hg)	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Mo - Poe-T10water	Polyoxyethylene oleyl amine	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	2.0	2.0	2.0	98.0	97.6	0.4	100.0	0.0	98.0	2.0	0.0	100.0
Mo - B-T5water	Benzene	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	48.3	6.7	55.0	6.2	0.2	6.4	61.4	38.6	38.6	0.0	100.0	54.5	38.6	0.2	6.7	100.0
Mo - N-T5water	Naphtalene	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	10.6	6.2	16.8	8.0	2.8	10.8	27.6	72.4	71.9	0.5	100.0	18.6	72.4	2.8	6.2	100.0
Mo - Ph-T5water	Phenol	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Mo - M-T5water	Mercury (Hg)	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Mo - Poe-T5water	Polyoxyethylene oleyl amine	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	2.0	2.0	2.0	98.0	97.6	0.4	100.0	0.0	98.0	2.0	0.0	100.0
Mo - B-wind6	Benzene	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	48.3	6.7	55.0	6.2	0.2	6.4	61.4	38.6	38.6	0.0	100.0	54.5	38.6	0.2	6.7	100.0
Mo - N-wind6	Naphtalene	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	10.6	6.2	16.8	8.0	2.8	10.8	27.6	72.4	71.9	0.5	100.0	18.6	72.4	2.8	6.2	100.0
Mo - Ph-wind6	Phenol	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Mo - M-wind6	Mercury (Hg)	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Mo - Poe-wind6	Polyoxyethylene oleyl amine	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	2.0	2.0	2.0	98.0	97.6	0.4	100.0	0.0	98.0	2.0	0.0	100.0
Mo - B-wind9	Benzene	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	48.3	6.7	55.0	6.2	0.2	6.4	61.4	38.6	38.6	0.0	100.0	54.5	38.6	0.2	6.7	100.0
Mo - N-wind9	Naphtalene	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	10.6	6.2	16.8	8.0	2.8	10.8	27.6	72.4	71.9	0.5	100.0	18.6	72.4	2.8	6.2	100.0
Mo - Ph-wind9	Phenol	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Mo - M-wind9	Mercury (Hg)	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Mo - Poe-wind9	Polyoxyethylene oleyl amine	10	1.5	0.3	5	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	2.0	2.0	2.0	98.0	97.6	0.4	100.0	0.0	98.0	2.0	0.0	100.0

Tab-identifier >	input	output	output	output	output	output	output	output		output	output	output	output	output
		Concentrations						Operation of the plant without primary settler						
Case Identifier	Name compound =	in air	in surplus sludge	in effluent (total)	dissolved	associated	in solids effluent	Sludge loading rate =	HRT =	SRT =	Aeration mode =	Surplus sludge =	Total wastewater =	
Phase 2a: Climate; temperature =n														
Mo - B-T10air	Benzene	0.0	4494.7	157.4	157.3	0.1	4494.7	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - N-T10air	Naphtalene	0.0	46066.8	195.2	193.8	1.4	46066.8	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Ph-T10air	Phenol	1.9	32.3	0.0	0.0	0.0	32.3	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - M-T10air	Mercury (Hg)	0.0	0.6	0.5	0.5	0.0	0.6	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Poe-T10air	Polyoxyethylene oleyl amine	0.0	3.8	0.0	0.0	0.0	3.8	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - B-T5air	Benzene	0.0	4470.2	156.6	156.4	0.1	4470.2	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - N-T5air	Naphtalene	0.0	46032.8	194.9	193.6	1.4	46032.8	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Ph-T5air	Phenol	1.9	32.3	0.0	0.0	0.0	32.3	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - M-T5air	Mercury (Hg)	0.0	0.6	0.5	0.5	0.0	0.6	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Poe-T5air	Polyoxyethylene oleyl amine	0.0	3.8	0.0	0.0	0.0	3.8	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - B-T10water	Benzene	0.0	4518.7	158.3	158.2	0.1	4518.7	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - N-T10water	Naphtalene	0.0	46100.2	195.4	194.1	1.4	46100.2	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Ph-T10water	Phenol	1.9	32.3	0.0	0.0	0.0	32.3	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - M-T10water	Mercury (Hg)	0.0	0.6	0.5	0.5	0.0	0.6	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Poe-T10water	Polyoxyethylene oleyl amine	0.0	3.8	0.0	0.0	0.0	3.8	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - B-T5water	Benzene	0.0	4518.7	158.3	158.2	0.1	4518.7	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - N-T5water	Naphtalene	0.0	46100.2	195.4	194.1	1.4	46100.2	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Ph-T5water	Phenol	1.9	32.3	0.0	0.0	0.0	32.3	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - M-T5water	Mercury (Hg)	0.0	0.6	0.5	0.5	0.0	0.6	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Poe-T5water	Polyoxyethylene oleyl amine	0.0	3.8	0.0	0.0	0.0	3.8	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - B-wind6	Benzene	0.0	4518.5	158.3	158.1	0.1	4518.5	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - N-wind6	Naphtalene	0.0	46098.8	195.4	194.0	1.4	46098.8	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Ph-wind6	Phenol	1.0	32.3	0.0	0.0	0.0	32.3	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - M-wind6	Mercury (Hg)	0.0	0.6	0.5	0.5	0.0	0.6	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Poe-wind6	Polyoxyethylene oleyl amine	0.0	3.8	0.0	0.0	0.0	3.8	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - B-wind9	Benzene	0.0	4518.4	158.3	158.1	0.1	4518.4	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - N-wind9	Naphtalene	0.0	46098.4	195.4	194.0	1.4	46098.4	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Ph-wind9	Phenol	0.6	32.3	0.0	0.0	0.0	32.3	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - M-wind9	Mercury (Hg)	0.0	0.6	0.5	0.5	0.0	0.6	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Poe-wind9	Polyoxyethylene oleyl amine	0.0	3.8	0.0	0.0	0.0	3.8	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Phase 2a: Climate; temperature =y														
Mo - B-T10air	Benzene	0.0	4494.7	157.4	157.3	0.1	4494.7	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - N-T10air	Naphtalene	0.0	46066.8	195.2	193.8	1.4	46066.8	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Ph-T10air	Phenol	1.9	32.3	0.0	0.0	0.0	32.3	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - M-T10air	Mercury (Hg)	0.0	0.6	0.5	0.5	0.0	0.6	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Poe-T10air	Polyoxyethylene oleyl amine	0.0	3.8	0.0	0.0	0.0	3.8	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - B-T5air	Benzene	0.0	4470.2	156.6	156.4	0.1	4470.2	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - N-T5air	Naphtalene	0.0	46032.8	194.9	193.6	1.4	46032.8	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Ph-T5air	Phenol	1.9	32.3	0.0	0.0	0.0	32.3	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - M-T5air	Mercury (Hg)	0.0	0.6	0.5	0.5	0.0	0.6	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Poe-T5air	Polyoxyethylene oleyl amine	0.0	3.8	0.0	0.0	0.0	3.8	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - B-T10water	Benzene	0.0	4518.7	158.3	158.2	0.1	4518.7	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - N-T10water	Naphtalene	0.0	46100.2	195.4	194.1	1.4	46100.2	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Ph-T10water	Phenol	1.9	32.3	0.0	0.0	0.0	32.3	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - M-T10water	Mercury (Hg)	0.0	0.6	0.5	0.5	0.0	0.6	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Poe-T10water	Polyoxyethylene oleyl amine	0.0	3.8	0.0	0.0	0.0	3.8	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - B-T5water	Benzene	0.0	4518.7	158.3	158.2	0.1	4518.7	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - N-T5water	Naphtalene	0.0	46100.2	195.4	194.1	1.4	46100.2	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Ph-T5water	Phenol	1.9	32.3	0.0	0.0	0.0	32.3	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - M-T5water	Mercury (Hg)	0.0	0.6	0.5	0.5	0.0	0.6	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Poe-T5water	Polyoxyethylene oleyl amine	0.0	3.8	0.0	0.0	0.0	3.8	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - B-wind6	Benzene	0.0	4518.5	158.3	158.1	0.1	4518.5	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - N-wind6	Naphtalene	0.0	46098.8	195.4	194.0	1.4	46098.8	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Ph-wind6	Phenol	1.0	32.3	0.0	0.0	0.0	32.3	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - M-wind6	Mercury (Hg)	0.0	0.6	0.5	0.5	0.0	0.6	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Poe-wind6	Polyoxyethylene oleyl amine	0.0	3.8	0.0	0.0	0.0	3.8	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - B-wind9	Benzene	0.0	4518.4	158.3	158.1	0.1	4518.4	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - N-wind9	Naphtalene	0.0	46098.4	195.4	194.0	1.4	46098.4	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Ph-wind9	Phenol	0.6	32.3	0.0	0.0	0.0	32.3	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - M-wind9	Mercury (Hg)	0.0	0.6	0.5	0.5	0.0	0.6	0.121	13.4	11.5	bubble aeration	338.1	2065.0	
Mo - Poe-wind9	Polyoxyethylene oleyl amine	0.0	3.8	0.0	0.0	0.0	3.8	0.121	13.4	11.5	bubble aeration	338.1	2065.0	

Tab-identifier >	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input
		Characterisation of the chemical									Emission scenario			Sewage										Biodegradation			
Case Identifier	Name compound =	Molecular weight =	Kow =	Vapour pressure =	Solubility =	Ka =	Kb =	Henry constant (H) =	Kp (raw sewage) =	Kp (activated sludge) =	T air =	T water =	Windspeed =	Operating mode : M/I	Sewage flow daily total l =	C compound inflow l =	Volume aerator	Sludge loading rate (table 1) =	Bubble or surface aeration: b/s	Input solids in raw sewage =	C susp solids raw sewage =	Temperature dependence (y/n)	method 1: k biodeg1 =	method 2: k biodeg2 =	method 3: mmax =	Ks =
Phase 3: Sewage											default = 15	default= 15	default = 3					default = 0.15 (medium)			*SS inflow*					
Mo - B- 95%Q1	Benzene	78.11	135	9999	1770			557.2875			15	15	3	I	1961750	410	1150	0.15	b	0.01	0.05	n	0.01125			
Mo - N- 95%Q1	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3	I	1961750	270	1150	0.15	b	0.01	0.05	n	0.00583333			
Mo - Ph- 95%Q1	Phenol	94.111	29	48	70000			3.04E+12			15	15	3	I	1961750	42000	1150	0.15	b	0.01	0.05	n	0.00329167			
Mo - M- 95%Q1	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	1961750	0	1150	0.15	b	0.01	0.05	n	0			
Mo - Poe- 95%Q1	Polyoxyethylene oleyl amine	100	1000	1	0.0764			6.00E-04			15	15	3	I	1961750	0.031	1150	0.15	b	0.01	0.05	n	0			
Mo - B- 105%Q1	Benzene	78.11	135	9999	1770			557.2875			15	15	3	I	2168250	410	1150	0.15	b	0.01	0.05	n	0.01125			
Mo - N- 105%Q1	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3	I	2168250	270	1150	0.15	b	0.01	0.05	n	0.00583333			
Mo - Ph- 105%Q1	Phenol	94.111	29	48	70000			3.04E+12			15	15	3	I	2168250	42000	1150	0.15	b	0.01	0.05	n	0.00329167			
Mo - M- 105%Q1	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	2168250	0	1150	0.15	b	0.01	0.05	n	0			
Mo - Poe- 105%Q1	Polyoxyethylene oleyl amine	100	1000	1	0.0764			6.00E-04			15	15	3	I	2168250	0.031	1150	0.15	b	0.01	0.05	n	0			
Mo - B- 95%[c]nflow	Benzene	78.11	135	9999	1770			557.2875			15	15	3	I	2065000	389.5	1150	0.15	b	0.01	0.05	n	0.01125			
Mo - N- 95%[c]nflow	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3	I	2065000	256.5	1150	0.15	b	0.01	0.05	n	0.00583333			
Mo - Ph- 95%[c]nflow	Phenol	94.111	29	48	70000			3.04E+12			15	15	3	I	2065000	39900	1150	0.15	b	0.01	0.05	n	0.00329167			
Mo - M- 95%[c]nflow	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	2065000	0	1150	0.15	b	0.01	0.05	n	0			
Mo - Poe- 95%[c]nflow	Polyoxyethylene oleyl amine	100	1000	1	0.0764			6.00E-04			15	15	3	I	2065000	0.02945	1150	0.15	b	0.01	0.05	n	0			
Mo - B- 105%[c]nflow	Benzene	78.11	135	9999	1770			557.2875			15	15	3	I	2065000	430.5	1150	0.15	b	0.01	0.05	n	0.01125			
Mo - N- 105%[c]nflow	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3	I	2065000	283.5	1150	0.15	b	0.01	0.05	n	0.00583333			
Mo - Ph- 105%[c]nflow	Phenol	94.111	29	48	70000			3.04E+12			15	15	3	I	2065000	44100	1150	0.15	b	0.01	0.05	n	0.00329167			
Mo - M- 105%[c]nflow	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	2065000	0	1150	0.15	b	0.01	0.05	n	0			
Mo - Poe- 105%[c]nflow	Polyoxyethylene oleyl amine	100	1000	1	0.0764			6.00E-04			15	15	3	I	2065000	0.03255	1150	0.15	b	0.01	0.05	n	0			
Mo - B- SLR(low)	Benzene	78.11	135	9999	1770			557.2875			15	15	3	I	2065000	410	1150	0.06	b	0.01	0.05	n	0.01125			
Mo - N- SLR(low)	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3	I	2065000	270	1150	0.06	b	0.01	0.05	n	0.00583333			
Mo - Ph- SLR(low)	Phenol	94.111	29	48	70000			3.04E+12			15	15	3	I	2065000	42000	1150	0.06	b	0.01	0.05	n	0.00329167			
Mo - M- SLR(low)	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	2065000	0	1150	0.06	b	0.01	0.05	n	0			
Mo - Poe- SLR(low)	Polyoxyethylene oleyl amine	100	1000	1	0.0764			6.00E-04			15	15	3	I	2065000	0.031	1150	0.06	b	0.01	0.05	n	0			
Mo - B- SLR(high)	Benzene	78.11	135	9999	1770			557.2875			15	15	3	I	2065000	410	1150	0.3	b	0.01	0.05	n	0.01125			
Mo - N- SLR(high)	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3	I	2065000	270	1150	0.3	b	0.01	0.05	n	0.00583333			
Mo - Ph- SLR(high)	Phenol	94.111	29	48	70000			3.04E+12			15	15	3	I	2065000	42000	1150	0.3	b	0.01	0.05	n	0.00329167			
Mo - M- SLR(high)	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	2065000	0	1150	0.3	b	0.01	0.05	n	0			
Mo - Poe- SLR(high)	Polyoxyethylene oleyl amine	100	1000	1	0.0764			6.00E-04			15	15	3	I	2065000	0.031	1150	0.3	b	0.01	0.05	n	0			
Mo - B- 95%[SS]	Benzene	78.11	135	9999	1770			557.2875			15	15	3	I	2065000	410	1150	0.15	b	0.0095	*0.0475*	n	0.01125			
Mo - N- 95%[SS]	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3	I	2065000	270	1150	0.15	b	0.0095	*0.0475*	n	0.00583333			
Mo - Ph- 95%[SS]	Phenol	94.111	29	48	70000			3.04E+12			15	15	3	I	2065000	42000	1150	0.15	b	0.0095	*0.0475*	n	0.00329167			
Mo - M- 95%[SS]	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	2065000	0	1150	0.15	b	0.0095	*0.0475*	n	0			
Mo - Poe- 95%[SS]	Polyoxyethylene oleyl amine	100	1000	1	0.0764			6.00E-04			15	15	3	I	2065000	0.031	1150	0.15	b	0.0095	*0.0475*	n	0			
Mo - B- 105%[SS]	Benzene	78.11	135	9999	1770			557.2875			15	15	3	I	2065000	410	1150	0.15	b	0.0105	*0.0525*	n	0.01125			
Mo - N- 105%[SS]	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3	I	2065000	270	1150	0.15	b	0.0105	*0.0525*	n	0.00583333			
Mo - Ph- 105%[SS]	Phenol	94.111	29	48	70000			3.04E+12			15	15	3	I	2065000	42000	1150	0.15	b	0.0105	*0.0525*	n	0.00329167			
Mo - M- 105%[SS]	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	2065000	0	1150	0.15	b	0.0105	*0.0525*	n	0			
Mo - Poe- 105%[SS]	Polyoxyethylene oleyl amine	100	1000	1	0.0764			6.00E-04			15	15	3	I	2065000	0.031	1150	0.15	b	0.0105	*0.0525*	n	0			
Mo - B- surfacebubble	Benzene	78.11	135	9999	1770			557.2875			15	15	3	I	2065000	410	1150	0.15	s	0.01	0.05	n	0.01125			
Mo - N- surfacebubble	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3	I	2065000	270	1150	0.15	s	0.01	0.05	n	0.00583333			
Mo - Ph- surfacebubble	Phenol	94.111	29	48	70000			3.04E+12			15	15	3	I	2065000	42000	1150	0.15	s	0.01	0.05	n	0.00329167			
Mo - M- surfacebubble	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	2065000	0	1150	0.15	s	0.01	0.05	n	0			
Mo - Poe- surfacebubble	Polyoxyethylene oleyl amine	100	1000	1	0.0764			6.00E-04			15	15	3	I	2065000	0.031	1150	0.15	s	0.01	0.05	n	0			
Phase 4: Biodegradation											default = 15	default= 15	default = 3					default = 0.15 (medium)			*SS inflow*					
Mo - B- 95%k biodeg	Benzene	78.11	135	9999	1770			557.2875			15	15	3	I	2065000	410	1150	0.15	b	0.01	0.05	n	0.0106875			
Mo - N- 95%k biodeg	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3	I	2065000	270	1150	0.15	b	0.01	0.05	n	0.00554167			
Mo - Ph- 95%k biodeg	Phenol	94.111	29	48	70000			3.04E+12			15	15	3	I	2065000	42000	1150	0.15	b	0.01	0.05	n	0.00312708			
Mo - M- 95%k biodeg	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	2065000	0	1150	0.15	b	0.01	0.05	n	0			
Mo - Poe- 95%k biodeg	Polyoxyethylene oleyl amine	100	1000	1	0.0764			6.00E-04			15	15	3	I	2065000	0.031	1150	0.15	b	0.01	0.05	n	0			
Mo - B- 105%k biodeg	Benzene	78.11	135	9999	1770			557.2875			15	15	3	I	2065000	410	1150	0.15	b	0.01	0.05	n	0.0118125			
Mo - N- 105%k biodeg	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3	I	2065000	270	1150	0.15	b	0.01	0.05	n	0.006125			
Mo - Ph- 105%k biodeg	Phenol	94.111	29	48	70000			3.04E+12			15	15	3	I	2065000	42000	1150	0.15	b	0.01	0.05	n	0.00345625			
Mo - M- 105%k biodeg	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	2065000	0	1150	0.15	b	0.01	0.05	n	0			
Mo - Poe- 105%k biodeg	Polyoxyethylene oleyl amine	100	1000	1	0.0764			6.00E-04			15	15	3	I	2065000	0.031	1150	0.15	b	0.01	0.05	n	0			
Mo - B- 95%k biodeg T5	Benzene	78.11	135	9999	1770			557.2875			15	5	3	I	2065000	410	1150	0.15	b	0.01	0.05	y	0.0106875			
Mo - N- 95%k biodeg T5	Naphtalene	128.19	1950	12	31.7			46.6095			15	5	3	I	2065000	270	1150	0.15	b	0.01	0.05	y	0.00554167			
Mo - Ph- 95%k biodeg T5	Phenol	94.111	29	48	70000			3.04E+12			15	5	3	I	2065000	42000	1150	0.15	b	0.01	0.05	y	0.00312708			
Mo - M- 95%k biodeg T5	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	5	3	I	2065000	0	1150	0.15	b	0.01	0.05	y	0			
Mo - Poe- 95%k biodeg T5	Polyoxyethylene oleyl amine	100	1000	1	0.0764			6.00E-04			15	5	3	I	2065000	0.031	1150	0.15	b	0.01	0.05	y	0			
Phase 5: Size primaire sedimentation system											default = 15	default= 15	default = 3					default = 0.15 (medium)			*SS inflow*					
Mo - B - PSS	Benzene	78.11	135	9999	1770			557.2875			15	15	3	I	2065000	410	1150	0.15	b	0.01	0.05	n	0.01125			
Mo - N - PSS	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3	I	2065000	270	1150	0.15	b	0.01	0.05	n	0.00583333			
Mo - Ph - PSS	Phenol	94.111	29	48	70000			3.04E+12			15	15	3	I	2065000	42000	1150	0.15	b	0.01	0.05	n	0.00329167			
Mo - M - PSS	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	2065000	0	1150	0.15	b	0.01	0.05	n	0			
Mo - Poe - PSS	Polyoxyethylene oleyl amine	100	1000	1	0.0764			6.00E-04			15	15	3	I	2065000	0.031	1150	0.15	b	0.01	0.05	n	0			

Tab-identifier >	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	output	output	output	output	output	output	output	output	output	output	output	output	output
									6-box								Elimination in the aerator			Elimination in the solids liquid separator			Total elimination from waste water	Total emission via effluent				Summary of distribution				
Case Identifier	Name compound =	Height air column =	Density solids raw sewage =	Fraction oc raw sewage =	BOD in raw sewage =	Depth aerator =	Oxygen concentration =	Aeration rate (1.31E-05) =	C activated sludge =	Fraction oc activated sludge =	Density solids activated sludge =	Depth SLS =	HRTSLS =	C susp solids SLS =	Fraction oc solids SLS =	Density solids SLS =	stripping	biodegradation	total	volatilization	via surplus sludge	total		% dissolved	% associated	balance	to air	to water	via surplus sludge	degraded	total
Phase 3: Sewage																															
Mo - B- 95%Q1	Benzene	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	48.3	7.0	55.3	6.2	0.2	6.4	61.7	38.3	38.3	0.0	100.0	54.5	38.3	0.2	7.0	100.0
Mo - N- 95%Q1	Naphtalene	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	11.1	6.5	17.5	7.9	2.8	10.7	28.2	71.8	71.3	0.5	100.0	19.0	71.8	2.8	6.5	100.0
Mo - Ph- 95%Q1	Phenol	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Mo - M- 95%Q1	Mercury (Hg)	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Mo - Poe- 95%Q1	Polyoxyethylene oleyl amine	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	2.0	2.0	2.0	98.0	97.6	0.4	100.0	0.0	98.0	2.0	0.0	100.0
Mo - B- 105%Q1	Benzene	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	48.2	6.5	54.7	6.3	0.2	6.4	61.1	38.9	38.8	0.0	100.0	54.5	38.9	0.2	6.5	100.0
Mo - N- 105%Q1	Naphtalene	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	10.2	6.0	16.2	8.0	2.8	10.9	27.1	72.9	72.4	0.5	100.0	18.3	72.9	2.8	6.0	100.0
Mo - Ph- 105%Q1	Phenol	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Mo - M- 105%Q1	Mercury (Hg)	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Mo - Poe- 105%Q1	Polyoxyethylene oleyl amine	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	2.0	2.0	2.0	98.0	97.6	0.4	100.0	0.0	98.0	2.0	0.0	100.0
Mo - B- 95%[c]nflow	Benzene	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	48.3	6.7	55.0	6.2	0.2	6.4	61.4	38.6	38.6	0.0	100.0	54.5	38.6	0.2	6.7	100.0
Mo - N- 95%[c]nflow	Naphtalene	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	10.6	6.2	16.8	8.0	2.8	10.8	27.6	72.4	71.9	0.5	100.0	18.6	72.4	2.8	6.2	100.0
Mo - Ph- 95%[c]nflow	Phenol	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Mo - M- 95%[c]nflow	Mercury (Hg)	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Mo - Poe- 95%[c]nflow	Polyoxyethylene oleyl amine	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	2.0	2.0	2.0	98.0	97.6	0.4	100.0	0.0	98.0	2.0	0.0	100.0
Mo - B- 105%[c]nflow	Benzene	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	48.3	6.7	55.0	6.2	0.2	6.4	61.4	38.6	38.6	0.0	100.0	54.5	38.6	0.2	6.7	100.0
Mo - N- 105%[c]nflow	Naphtalene	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	10.6	6.2	16.8	8.0	2.8	10.8	27.6	72.4	71.9	0.5	100.0	18.6	72.4	2.8	6.2	100.0
Mo - Ph- 105%[c]nflow	Phenol	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Mo - M- 105%[c]nflow	Mercury (Hg)	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Mo - Poe- 105%[c]nflow	Polyoxyethylene oleyl amine	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	2.0	2.0	2.0	98.0	97.6	0.4	100.0	0.0	98.0	2.0	0.0	100.0
Mo - B- SLR(low)	Benzene	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	48.3	6.7	55.0	6.2	0.2	6.4	61.4	38.6	38.6	0.0	100.0	54.5	38.6	0.2	6.7	100.0
Mo - N- SLR(low)	Naphtalene	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	10.6	6.2	16.8	8.0	2.8	10.8	27.6	72.4	71.9	0.5	100.0	18.6	72.4	2.8	6.2	100.0
Mo - Ph- SLR(low)	Phenol	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Mo - M- SLR(low)	Mercury (Hg)	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Mo - Poe- SLR(low)	Polyoxyethylene oleyl amine	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	2.0	2.0	2.0	98.0	97.6	0.4	100.0	0.0	98.0	2.0	0.0	100.0
Mo - B- SLR(high)	Benzene	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	48.3	6.7	55.0	6.2	0.2	6.4	61.4	38.6	38.6	0.0	100.0	54.5	38.6	0.2	6.7	100.0
Mo - N- SLR(high)	Naphtalene	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	10.6	6.2	16.8	8.0	2.8	10.8	27.6	72.4	71.9	0.5	100.0	18.6	72.4	2.8	6.2	100.0
Mo - Ph- SLR(high)	Phenol	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Mo - M- SLR(high)	Mercury (Hg)	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Mo - Poe- SLR(high)	Polyoxyethylene oleyl amine	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	2.0	2.0	2.0	98.0	97.6	0.4	100.0	0.0	98.0	2.0	0.0	100.0
Mo - B- 95%[SS]	Benzene	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	48.3	6.7	55.0	6.2	0.2	6.4	61.4	38.6	38.6	0.0	100.0	54.5	38.6	0.2	6.7	100.0
Mo - N- 95%[SS]	Naphtalene	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	10.6	6.2	16.8	8.0	2.8	10.8	27.6	72.4	71.9	0.5	100.0	18.6	72.4	2.8	6.2	100.0
Mo - Ph- 95%[SS]	Phenol	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Mo - M- 95%[SS]	Mercury (Hg)	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Mo - Poe- 95%[SS]	Polyoxyethylene oleyl amine	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	2.0	2.0	2.0	98.0	97.6	0.4	100.0	0.0	98.0	2.0	0.0	100.0
Mo - B- 105%[SS]	Benzene	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	48.3	6.7	55.0	6.2	0.2	6.4	61.4	38.6	38.6	0.0	100.0	54.5	38.6	0.2	6.7	100.0
Mo - N- 105%[SS]	Naphtalene	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	10.6	6.2	16.8	8.0	2.8	10.8	27.6	72.4	71.9	0.5	100.0	18.6	72.4	2.8	6.2	100.0
Mo - Ph- 105%[SS]	Phenol	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Mo - M- 105%[SS]	Mercury (Hg)	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Mo - Poe- 105%[SS]	Polyoxyethylene oleyl amine	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	2.0	2.0	2.0	98.0	97.6	0.4	100.0	0.0	98.0	2.0	0.0	100.0
Mo - B- surfacebubble	Benzene	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	82.4	2.3	84.6	2.1	0.1	2.2	86.8	13.2	13.2	0.0	100.0	84.5	13.2	0.1	2.3	100.0
Mo - N- surfacebubble	Naphtalene	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	26.3	5.1	31.4	6.6	2.3	8.9	40.3	59.7	59.3	0.4	100.0	32.8	59.7	2.3	5.1	100.0
Mo - Ph- surfacebubble	Phenol	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	95.7	0.2	95.9	0.6	0.0	0.6	96.5	3.5	3.5	0.0	100.0	96.3	3.5	0.0	0.2	100.0
Mo - M- surfacebubble	Mercury (Hg)	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Mo - Poe- surfacebubble	Polyoxyethylene oleyl amine	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	2.0	2.0	2.0	98.0	97.6	0.4	100.0	0.0	98.0	2.0	0.0	100.0
Phase 4: Biodegradation																															
Mo - B- 95%k biodeg	Benzene	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	48.4	6.4	54.8	6.2	0.2	6.4	61.3	38.7	38.7	0.0	100.0	54.7	38.7	0.2	6.4	100.0
Mo - N- 95%k biodeg	Naphtalene	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	10.7	5.9	16.6	8.0	2.8	10.8	27.4	72.6	72.1	0.5	100.0	18.7	72.6	2.8	5.9	100.0
Mo - Ph- 95%k biodeg	Phenol	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Mo - M- 95%k biodeg	Mercury (Hg)	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Mo - Poe- 95%k biodeg	Polyoxyethylene oleyl amine	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	2.0	2.0	2.0	98.0	97.6	0.4	100.0	0.0	98.0	2.0	0.0	100.0
Mo - B- 105%k biodeg	Benzene	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	48.1	7.0	55.1	6.2	0.2	6.4	61.5	38.5	38.4	0.0	100.0	54.3	38.5	0.2	7.0	100.0
Mo - N- 105%k biodeg	Naphtalene	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	10.6	6.5	17.1	8.0	2.8	10.7	27.8	72.2	71.7	0.5	100.0	18.6	72.2	2.8	6.5	100.0
Mo - Ph- 105%k biodeg	Phenol	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Mo - M- 105%k biodeg	Mercury (Hg)	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Mo - Poe- 105%k biodeg	Polyoxyethylene oleyl amine	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	2.0	2.0	2.0	98.0	97.6	0.4	100.0	0.0	98.0	2.0	0.0	100.0
Mo - B- 95%k biodeg T5	Benzene	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	50.5	2.4	52.9	6.5	0.2	6.7	59.6	40.4	40.4	0.0	100.0	57.0	40.4	0.2	2.4	100.0
Mo - N- 95%k biodeg T5	Naphtalene	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	11.1	2.2	13.3	8.3	2.9	11.2	24.5	75.5	75.0	0.5	100.0	19.4	75.5	2.9	2.2	100.0
Mo - Ph- 95%k biodeg T5	Phenol	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Mo - M- 95%k biodeg T5	Mercury (Hg)	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Mo - Poe- 95%k biodeg T5	Polyoxyethylene oleyl amine	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	2.0	2.0	2.0	98.0	97.6	0.4	100.0	0.0	98.0	2.0	0.0	100.0
Phase 5: Size primaire sedimentation system																															
Mo - B - PSS	Benzene	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	48.3	6.7	55.0	6.2	0.2	6.4	61.4	38.6	38.6	0.0	100.0	54.5	38.6	0.2	6.7	100.0
Mo - N - PSS	Naphtalene	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	10.6	6.2	16.8	8.0	2.8	10.8	27.6	72.4	71.9	0.5	100.0	18.6	72.4	2.8	6.2	100.0
Mo - Ph - PSS	Phenol	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Mo - M - PSS	Mercury (Hg)	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Mo - Poe - PSS	Polyoxyethylene oleyl amine	10	1.5	0.3	5%	7	0.002	1.30E-05	4	0.37	1.3	4.15	6.9733656	0.03	0.37	1.3	0.0	0.0	0.0	0.0	2.0	2.0	2.0	98.0	97.6	0.4	100.0	0.0	98.0	2.0	0.0	100.0

Tab-identifier >	input	output	output	output	output	output	output	output	output	output	output	output	output
		Concentrations						Operation of the plant without primary settler					
Case Identifier	Name compound =	in air	in surplus sludge	in effluent (total)	dissolved	associated	in solids effluent	Sludge loading rate =	HRT =	SRT =	Aeration mode =	Surplus sludge =	Total wastewater =
Phase 3: Sewage													
Mo - B- 95%Q1	Benzene	0.0	4483.6	157.1	156.9	0.1	4483.6	0.115	14.1	12.1	bubble aeration	320.3	1961.8
Mo - N- 95%Q1	Naphtalene	0.0	45714.6	193.8	192.4	1.4	45714.6	0.115	14.1	12.1	bubble aeration	320.3	1961.8
Mo - Ph- 95%Q1	Phenol	1.8	30.7	0.0	0.0	0.0	30.7	0.115	14.1	12.1	bubble aeration	320.3	1961.8
Mo - M- 95%Q1	Mercury (Hg)	0.0	0.6	0.5	0.5	0.0	0.6	0.115	14.1	12.1	bubble aeration	320.3	1961.8
Mo - Poe- 95%Q1	Polyoxyethylene oleyl amine	0.0	3.8	0.0	0.0	0.0	3.8	0.115	14.1	12.1	bubble aeration	320.3	1961.8
Mo - B- 105%Q1	Benzene	0.0	4551.0	159.4	159.3	0.1	4551.0	0.127	12.7	10.9	bubble aeration	356.0	2168.3
Mo - N- 105%Q1	Naphtalene	0.0	46454.5	197.0	195.6	1.4	46454.5	0.127	12.7	10.9	bubble aeration	356.0	2168.3
Mo - Ph- 105%Q1	Phenol	2.0	33.9	0.0	0.0	0.0	33.9	0.127	12.7	10.9	bubble aeration	356.0	2168.3
Mo - M- 105%Q1	Mercury (Hg)	0.0	0.6	0.5	0.5	0.0	0.6	0.127	12.7	10.9	bubble aeration	356.0	2168.3
Mo - Poe- 105%Q1	Polyoxyethylene oleyl amine	0.0	3.8	0.0	0.0	0.0	3.8	0.127	12.7	10.9	bubble aeration	356.0	2168.3
Mo - B- 95%[c]nflow	Benzene	0.0	4292.8	150.4	150.2	0.1	4292.8	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - N- 95%[c]nflow	Naphtalene	0.0	43795.2	185.7	184.4	1.3	43795.2	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - Ph- 95%[c]nflow	Phenol	1.8	30.7	0.0	0.0	0.0	30.7	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - M- 95%[c]nflow	Mercury (Hg)	0.0	0.6	0.5	0.5	0.0	0.6	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - Poe- 95%[c]nflow	Polyoxyethylene oleyl amine	0.0	3.6	0.0	0.0	0.0	3.6	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - B- 105%[c]nflow	Benzene	0.0	4744.6	166.2	166.1	0.1	4744.6	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - N- 105%[c]nflow	Naphtalene	0.0	48405.2	205.2	203.8	1.5	48405.2	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - Ph- 105%[c]nflow	Phenol	2.0	33.9	0.0	0.0	0.0	33.9	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - M- 105%[c]nflow	Mercury (Hg)	0.0	0.6	0.5	0.5	0.0	0.6	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - Poe- 105%[c]nflow	Polyoxyethylene oleyl amine	0.0	4.0	0.0	0.0	0.0	4.0	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - B- SLR(low)	Benzene	0.0	4518.7	158.3	158.2	0.1	4518.7	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - N- SLR(low)	Naphtalene	0.0	46100.2	195.4	194.1	1.4	46100.2	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - Ph- SLR(low)	Phenol	1.9	32.3	0.0	0.0	0.0	32.3	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - M- SLR(low)	Mercury (Hg)	0.0	0.6	0.5	0.5	0.0	0.6	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - Poe- SLR(low)	Polyoxyethylene oleyl amine	0.0	3.8	0.0	0.0	0.0	3.8	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - B- SLR(high)	Benzene	0.0	4518.7	158.3	158.2	0.1	4518.7	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - N- SLR(high)	Naphtalene	0.0	46100.2	195.4	194.1	1.4	46100.2	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - Ph- SLR(high)	Phenol	1.9	32.3	0.0	0.0	0.0	32.3	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - M- SLR(high)	Mercury (Hg)	0.0	0.6	0.5	0.5	0.0	0.6	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - Poe- SLR(high)	Polyoxyethylene oleyl amine	0.0	3.8	0.0	0.0	0.0	3.8	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - B- 95%[SS]	Benzene	0.0	4518.7	158.3	158.2	0.1	4518.7	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - N- 95%[SS]	Naphtalene	0.0	46099.7	195.4	194.1	1.4	46099.7	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - Ph- 95%[SS]	Phenol	1.9	30.7	0.0	0.0	0.0	30.7	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - M- 95%[SS]	Mercury (Hg)	0.0	0.6	0.5	0.5	0.0	0.6	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - Poe- 95%[SS]	Polyoxyethylene oleyl amine	0.0	3.8	0.0	0.0	0.0	3.8	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - B- 105%[SS]	Benzene	0.0	4518.8	158.3	158.2	0.1	4518.8	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - N- 105%[SS]	Naphtalene	0.0	46100.8	195.4	194.1	1.4	46100.8	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - Ph- 105%[SS]	Phenol	1.9	33.9	0.0	0.0	0.0	33.9	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - M- 105%[SS]	Mercury (Hg)	0.0	0.6	0.5	0.5	0.0	0.6	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - Poe- 105%[SS]	Polyoxyethylene oleyl amine	0.0	3.8	0.0	0.0	0.0	3.8	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - B- surfacebubble	Benzene	0.0	1542.3	54.0	54.0	0.0	1542.3	0.121	13.4	11.5	surface aeration	338.1	2065.0
Mo - N- surfacebubble	Naphtalene	0.0	38035.7	161.3	160.1	1.1	38035.7	0.121	13.4	11.5	surface aeration	338.1	2065.0
Mo - Ph- surfacebubble	Phenol	1.8	12182.6	1475.3	1475.0	0.4	12182.6	0.121	13.4	11.5	surface aeration	338.1	2065.0
Mo - M- surfacebubble	Mercury (Hg)	0.0	0.6	0.5	0.5	0.0	0.6	0.121	13.4	11.5	surface aeration	338.1	2065.0
Mo - Poe- surfacebubble	Polyoxyethylene oleyl amine	0.0	3.8	0.0	0.0	0.0	3.8	0.121	13.4	11.5	surface aeration	338.1	2065.0
Phase 4: Biodegradation													
Mo - B- 95%k biodeg	Benzene	0.0	4534.0	158.8	158.7	0.1	4534.0	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - N- 95%k biodeg	Naphtalene	0.0	46243.7	196.0	194.7	1.4	46243.7	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - Ph- 95%k biodeg	Phenol	1.9	32.3	0.0	0.0	0.0	32.3	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - M- 95%k biodeg	Mercury (Hg)	0.0	0.6	0.5	0.5	0.0	0.6	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - Poe- 95%k biodeg	Polyoxyethylene oleyl amine	0.0	3.8	0.0	0.0	0.0	3.8	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - B- 105%k biodeg	Benzene	0.0	4503.6	157.8	157.6	0.1	4503.6	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - N- 105%k biodeg	Naphtalene	0.0	45957.6	194.8	193.5	1.4	45957.6	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - Ph- 105%k biodeg	Phenol	1.9	32.3	0.0	0.0	0.0	32.3	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - M- 105%k biodeg	Mercury (Hg)	0.0	0.6	0.5	0.5	0.0	0.6	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - Poe- 105%k biodeg	Polyoxyethylene oleyl amine	0.0	3.8	0.0	0.0	0.0	3.8	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - B- 95%k biodeg T5	Benzene	0.0	4730.5	165.7	165.6	0.1	4730.5	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - N- 95%k biodeg T5	Naphtalene	0.0	48085.4	203.9	202.4	1.4	48085.4	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - Ph- 95%k biodeg T5	Phenol	1.9	32.3	0.0	0.0	0.0	32.3	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - M- 95%k biodeg T5	Mercury (Hg)	0.0	0.6	0.5	0.5	0.0	0.6	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - Poe- 95%k biodeg T5	Polyoxyethylene oleyl amine	0.0	3.8	0.0	0.0	0.0	3.8	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Phase 5: Size primaire sedimentation system													
Mo - B - PSS	Benzene	0.0	4518.7	158.3	158.2	0.1	4518.7	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - N - PSS	Naphtalene	0.0	46100.2	195.4	194.1	1.4	46100.2	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - Ph - PSS	Phenol	1.9	32.3	0.0	0.0	0.0	32.3	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - M - PSS	Mercury (Hg)	0.0	0.6	0.5	0.5	0.0	0.6	0.121	13.4	11.5	bubble aeration	338.1	2065.0
Mo - Poe - PSS	Polyoxyethylene oleyl amine	0.0	3.8	0.0	0.0	0.0	3.8	0.121	13.4	11.5	bubble aeration	338.1	2065.0

Tab-identifier >	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input
		Characterisation of the chemical									Emission scenario			Sewage										Biodegradation			
Case Identifier	Name compound =	Molecular weight =	Kow =	Vapour pressure =	Solubility =	Ka =	Kb =	Henry constant (H) =	Kp (raw sewage) =	Kp (activated sludge) =	T air =	T water =	Windspeed =	Operating mode : M/I	Sewage flow daily total l =	C compound inflow l =	Volume aerator	Sludge loading rate (table 1) =	Bubble or surface aeration: b/s	Input solids in raw sewage =	C susp solids raw sewage =	Temperature dependence (y/n)	method 1: k biodeg1 =	method 2: k biodeg2 =	method 3: mmax =	Ks =
WWTP Melkoya																										
Phase 1: Compound related											default = 15	default= 15	default = 3					default = 0.15 (medium)			*SS inflow*					
Me - B - 95%MM	Benzene	74.2045	135	9999	1770			557.2875			15	15	3	I	84000	6.1	451	0.15	b	0.0001	*0.0005*	n	0.01125			
Me - N - 95%MM	Naphtalene	121.7805	1950	12	31.7			46.6095			15	15	3	I	84000	1.2	451	0.15	b	0.0001	*0.0005*	n	0.00583333			
Me - Ph - 95%MM	Phenol	89.40545	29	48	70000			3.04E+12			15	15	3	I	84000	20	451	0.15	b	0.0001	*0.0005*	n	0.00329167			
Me - M - 95%MM	Mercury (Hg)	257.944	3	0	74000			6.00E-04			15	15	3	I	84000	0.00004	451	0.15	b	0.0001	*0.0005*	n	0			
Me - Meg - 95%MM	Monoethyleneglycol	58.9665	0	8	100			0.0060795			15	15	3	I	84000	1000	451	0.15	b	0.0001	*0.0005*	n	0.0008875			
Me - B - 105%MM	Benzene	82.0155	135	9999	1770			557.2875			15	15	3	I	84000	6.1	451	0.15	b	0.0001	*0.0005*	n	0.01125			
Me - N - 105%MM	Naphtalene	134.5995	1950	12	31.7			46.6095			15	15	3	I	84000	1.2	451	0.15	b	0.0001	*0.0005*	n	0.00583333			
Me - Ph - 105%MM	Phenol	98.81655	29	48	70000			3.04E+12			15	15	3	I	84000	20	451	0.15	b	0.0001	*0.0005*	n	0.00329167			
Me - M - 105%MM	Mercury (Hg)	285.096	3	0	74000			6.00E-04			15	15	3	I	84000	0.00004	451	0.15	b	0.0001	*0.0005*	n	0			
Me - Meg - 105%MM	Monoethyleneglycol	65.1735	0	8	100			0.0060795			15	15	3	I	84000	1000	451	0.15	b	0.0001	*0.0005*	n	0.0008875			
Me - B - 95%Kow	Benzene	78.11	128	9999	1770			557.2875			15	15	3	I	84000	6.1	451	0.15	b	0.0001	*0.0005*	n	0.01125			
Me - N - 95%Kow	Naphtalene	128.19	1852	12	31.7			46.6095			15	15	3	I	84000	1.2	451	0.15	b	0.0001	*0.0005*	n	0.00583333			
Me - Ph - 95%Kow	Phenol	94.111	27	48	70000			3.04E+12			15	15	3	I	84000	20	451	0.15	b	0.0001	*0.0005*	n	0.00329167			
Me - M - 95%Kow	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	84000	0.00004	451	0.15	b	0.0001	*0.0005*	n	0			
Me - Meg - 95%Kow	Monoethyleneglycol	62.07	0	8	100			0.0060795			15	15	3	I	84000	1000	451	0.15	b	0.0001	*0.0005*	n	0.0008875			
Me - B - 105%Kow	Benzene	78.11	142	9999	1770			557.2875			15	15	3	I	84000	6.1	451	0.15	b	0.0001	*0.0005*	n	0.01125			
Me - N - 105%Kow	Naphtalene	128.19	2047	12	31.7			46.6095			15	15	3	I	84000	1.2	451	0.15	b	0.0001	*0.0005*	n	0.00583333			
Me - Ph - 105%Kow	Phenol	94.111	30	48	70000			3.04E+12			15	15	3	I	84000	20	451	0.15	b	0.0001	*0.0005*	n	0.00329167			
Me - M - 105%Kow	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	84000	0.00004	451	0.15	b	0.0001	*0.0005*	n	0			
Me - Meg - 105%Kow	Monoethyleneglycol	62.07	0	8	100			0.0060795			15	15	3	I	84000	1000	451	0.15	b	0.0001	*0.0005*	n	0.0008875			
Me - B - 95%Vp	Benzene	78.11	135	9499	1770			557.2875			15	15	3	I	84000	6.1	451	0.15	b	0.0001	*0.0005*	n	0.01125			
Me - N - 95%Vp	Naphtalene	128.19	1950	11	31.7			46.6095			15	15	3	I	84000	1.2	451	0.15	b	0.0001	*0.0005*	n	0.00583333			
Me - Ph - 95%Vp	Phenol	94.111	29	46	70000			3.04E+12			15	15	3	I	84000	20	451	0.15	b	0.0001	*0.0005*	n	0.00329167			
Me - M - 95%Vp	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	84000	0.00004	451	0.15	b	0.0001	*0.0005*	n	0			
Me - Meg - 95%Vp	Monoethyleneglycol	62.07	0	1	100			0.0060795			15	15	3	I	84000	1000	451	0.15	b	0.0001	*0.0005*	n	0.0008875			
Me - B - 105%Vp	Benzene	78.11	135	10499	1770			557.2875			15	15	3	I	84000	6.1	451	0.15	b	0.0001	*0.0005*	n	0.01125			
Me - N - 105%Vp	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3	I	84000	1.2	451	0.15	b	0.0001	*0.0005*	n	0.00583333			
Me - Ph - 105%Vp	Phenol	94.111	29	50	70000			3.04E+12			15	15	3	I	84000	20	451	0.15	b	0.0001	*0.0005*	n	0.00329167			
Me - M - 105%Vp	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	84000	0.00004	451	0.15	b	0.0001	*0.0005*	n	0			
Me - Meg - 105%Vp	Monoethyleneglycol	62.07	0	1	100			0.0060795			15	15	3	I	84000	1000	451	0.15	b	0.0001	*0.0005*	n	0.0008875			
Me - B - 95%Sol	Benzene	78.11	135	9999	1681.5			557.2875			15	15	3	I	84000	6.1	451	0.15	b	0.0001	*0.0005*	n	0.01125			
Me - N - 95%Sol	Naphtalene	128.19	1950	12	30.115			46.6095			15	15	3	I	84000	1.2	451	0.15	b	0.0001	*0.0005*	n	0.00583333			
Me - Ph - 95%Sol	Phenol	94.111	29	48	66500			3.04E+12			15	15	3	I	84000	20	451	0.15	b	0.0001	*0.0005*	n	0.00329167			
Me - M - 95%Sol	Mercury (Hg)	271.52	3	0	70300			6.00E-04			15	15	3	I	84000	0.00004	451	0.15	b	0.0001	*0.0005*	n	0			
Me - Meg - 95%Sol	Monoethyleneglycol	62.07	0	8	95			0.0060795			15	15	3	I	84000	1000	451	0.15	b	0.0001	*0.0005*	n	0.0008875			
Me - B - 105%Sol	Benzene	78.11	135	9999	1858.5			557.2875			15	15	3	I	84000	6.1	451	0.15	b	0.0001	*0.0005*	n	0.01125			
Me - N - 105%Sol	Naphtalene	128.19	1950	12	33.285			46.6095			15	15	3	I	84000	1.2	451	0.15	b	0.0001	*0.0005*	n	0.00583333			
Me - Ph - 105%Sol	Phenol	94.111	29	48	73500			3.04E+12			15	15	3	I	84000	20	451	0.15	b	0.0001	*0.0005*	n	0.00329167			
Me - M - 105%Sol	Mercury (Hg)	271.52	3	0	77700			6.00E-04			15	15	3	I	84000	0.00004	451	0.15	b	0.0001	*0.0005*	n	0			
Me - Meg - 105%Sol	Monoethyleneglycol	62.07	0	8	105			0.0060795			15	15	3	I	84000	1000	451	0.15	b	0.0001	*0.0005*	n	0.0008875			
Me - B - 95%Hc	Benzene	78.11	135	9999	1770			529.423125			15	15	3	I	84000	6.1	451	0.15	b	0.0001	*0.0005*	n	0.01125			
Me - N - 95%Hc	Naphtalene	128.19	1950	12	31.7			44.279025			15	15	3	I	84000	1.2	451	0.15	b	0.0001	*0.0005*	n	0.00583333			
Me - Ph - 95%Hc	Phenol	94.111	29	48	70000			2.89E+12			15	15	3	I	84000	20	451	0.15	b	0.0001	*0.0005*	n	0.00329167			
Me - M - 95%Hc	Mercury (Hg)	271.52	3	0	74000			0.00057			15	15	3	I	84000	0.00004	451	0.15	b	0.0001	*0.0005*	n	0			
Me - Meg - 95%Hc	Monoethyleneglycol	62.07	0	8	100			5.70E-04			15	15	3	I	84000	1000	451	0.15	b	0.0001	*0.0005*	n	0.0008875			
Me - B - 105%Hc	Benzene	78.11	135	9999	1770			585.151875			15	15	3	I	84000	6.1	451	0.15	b	0.0001	*0.0005*	n	0.01125			
Me - N - 105%Hc	Naphtalene	128.19	1950	12	31.7			48.939975			15	15	3	I	84000	1.2	451	0.15	b	0.0001	*0.0005*	n	0.00583333			
Me - Ph - 105%Hc	Phenol	94.111	29	48	70000			3.03E+12			15	15	3	I	84000	20	451	0.15	b	0.0001	*0.0005*	n	0.00329167			
Me - M - 105%Hc	Mercury (Hg)	271.52	3	0	74000			0.0005985			15	15	3	I	84000	0.00004	451	0.15	b	0.0001	*0.0005*	n	0			
Me - Meg - 105%Hc	Monoethyleneglycol	62.07	0	8	100			6.30E-04			15	15	3	I	84000	1000	451	0.15	b	0.0001	*0.0005*	n	0.0008875			

Tab-identifier >	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	output	output	output	output	output	output	output	output	output	output	output	output	output
									6-box								Elimination in the aerator			Elimination in the solids liquid separator			Total elimination from waste water	Total emission via effluent				Summary of distribution				
Case Identifier	Name compound =	Height air column =	Density solids raw sewage =	Fraction oc raw sewage =	BOD in raw sewage =	Depth aerator =	Oxygen concentration =	Aeration rate (1.31E-05) =	C activated sludge =	Fraction oc activated sludge =	Density solids activated sludge =	Depth SLS =	HRTSLS =	C susp solids SLS =	Fraction oc solids SLS =	Density solids SLS =	stripping	biodegradation	total	volatilization	via surplus sludge	total		% dissolved	% associated	balance	to air	to water	via surplus sludge	degraded	total
WWTP Melkoya																															
Phase 1: Compound related																															
Me - B - 95%MM	Benzene	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	46.1	31.7	77.8	12.1	0.1	12.2	90.0	10.0	10.0	0.0	100.0	58.2	10.0	0.1	31.7	100.0
Me - N - 95%MM	Naphtalene	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	33.7	26.6	60.4	17.5	1.0	18.5	78.8	21.2	21.0	0.2	100.0	51.2	21.2	1.0	26.6	100.0
Me - Ph - 95%MM	Phenol	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Me - M - 95%MM	Mercury (Hg)	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Me - Meg - 95%MM	Monoethyleneglycol	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	10.3	10.3	0.0	0.0	0.0	10.3	89.7	89.7	0.0	100.0	0.1	89.7	0.0	10.3	100.0
Me - B - 105%MM	Benzene	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	46.1	31.7	77.8	12.1	0.1	12.2	90.0	10.0	10.0	0.0	100.0	58.2	10.0	0.1	31.7	100.0
Me - N - 105%MM	Naphtalene	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	33.7	26.6	60.4	17.5	1.0	18.5	78.8	21.2	21.0	0.2	100.0	51.2	21.2	1.0	26.6	100.0
Me - Ph - 105%MM	Phenol	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Me - M - 105%MM	Mercury (Hg)	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Me - Meg - 105%MM	Monoethyleneglycol	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	10.3	10.3	0.0	0.0	0.0	10.3	89.7	89.7	0.0	100.0	0.1	89.7	0.0	10.3	100.0
Me - B - 95%Kow	Benzene	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	46.1	31.7	77.8	12.1	0.1	12.2	90.0	10.0	10.0	0.0	100.0	58.2	10.0	0.1	31.7	100.0
Me - N - 95%Kow	Naphtalene	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	33.8	26.7	60.5	17.5	0.9	18.4	78.9	21.1	20.9	0.2	100.0	51.3	21.1	0.9	26.7	100.0
Me - Ph - 95%Kow	Phenol	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Me - M - 95%Kow	Mercury (Hg)	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Me - Meg - 95%Kow	Monoethyleneglycol	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	10.3	10.3	0.0	0.0	0.0	10.3	89.7	89.7	0.0	100.0	0.1	89.7	0.0	10.3	100.0
Me - B - 105%Kow	Benzene	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	46.1	31.7	77.8	12.1	0.1	12.2	90.0	10.0	10.0	0.0	100.0	58.2	10.0	0.1	31.7	100.0
Me - N - 105%Kow	Naphtalene	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	33.7	26.6	60.3	17.5	1.0	18.5	78.8	21.2	21.0	0.2	100.0	51.2	21.2	1.0	26.6	100.0
Me - Ph - 105%Kow	Phenol	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Me - M - 105%Kow	Mercury (Hg)	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Me - Meg - 105%Kow	Monoethyleneglycol	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	10.3	10.3	0.0	0.0	0.0	10.3	89.7	89.7	0.0	100.0	0.1	89.7	0.0	10.3	100.0
Me - B - 95%Vp	Benzene	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	46.1	31.7	77.8	12.1	0.1	12.2	90.0	10.0	10.0	0.0	100.0	58.2	10.0	0.1	31.7	100.0
Me - N - 95%Vp	Naphtalene	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	33.7	26.6	60.4	17.5	1.0	18.5	78.8	21.2	21.0	0.2	100.0	51.2	21.2	1.0	26.6	100.0
Me - Ph - 95%Vp	Phenol	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Me - M - 95%Vp	Mercury (Hg)	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Me - Meg - 95%Vp	Monoethyleneglycol	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	10.3	10.3	0.0	0.0	0.0	10.3	89.7	89.7	0.0	100.0	0.1	89.7	0.0	10.3	100.0
Me - B - 105%Vp	Benzene	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	46.1	31.7	77.8	12.1	0.1	12.2	90.0	10.0	10.0	0.0	100.0	58.2	10.0	0.1	31.7	100.0
Me - N - 105%Vp	Naphtalene	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	33.7	26.6	60.4	17.5	1.0	18.5	78.8	21.2	21.0	0.2	100.0	51.2	21.2	1.0	26.6	100.0
Me - Ph - 105%Vp	Phenol	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Me - M - 105%Vp	Mercury (Hg)	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Me - Meg - 105%Vp	Monoethyleneglycol	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	10.3	10.3	0.0	0.0	0.0	10.3	89.7	89.7	0.0	100.0	0.1	89.7	0.0	10.3	100.0
Me - B - 95%Sol	Benzene	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	46.1	31.7	77.8	12.1	0.1	12.2	90.0	10.0	10.0	0.0	100.0	58.2	10.0	0.1	31.7	100.0
Me - N - 95%Sol	Naphtalene	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	33.7	26.6	60.4	17.5	1.0	18.5	78.8	21.2	21.0	0.2	100.0	51.2	21.2	1.0	26.6	100.0
Me - Ph - 95%Sol	Phenol	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Me - M - 95%Sol	Mercury (Hg)	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Me - Meg - 95%Sol	Monoethyleneglycol	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	10.3	10.3	0.0	0.0	0.0	10.3	89.7	89.7	0.0	100.0	0.1	89.7	0.0	10.3	100.0
Me - B - 105%Sol	Benzene	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	46.1	31.7	77.8	12.1	0.1	12.2	90.0	10.0	10.0	0.0	100.0	58.2	10.0	0.1	31.7	100.0
Me - N - 105%Sol	Naphtalene	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	33.7	26.6	60.4	17.5	1.0	18.5	78.8	21.2	21.0	0.2	100.0	51.2	21.2	1.0	26.6	100.0
Me - Ph - 105%Sol	Phenol	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Me - M - 105%Sol	Mercury (Hg)	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Me - Meg - 105%Sol	Monoethyleneglycol	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	10.3	10.3	0.0	0.0	0.0	10.3	89.7	89.7	0.0	100.0	0.1	89.7	0.0	10.3	100.0
Me - B - 95%Hc	Benzene	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	45.3	32.2	77.4	12.3	0.1	12.4	89.8	10.2	10.2	0.0	100.0	57.6	10.2	0.1	32.2	100.0
Me - N - 95%Hc	Naphtalene	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	33.3	26.8	60.1	17.4	1.0	18.4	78.5	21.5	21.3	0.2	100.0	50.8	21.5	1.0	26.8	100.0
Me - Ph - 95%Hc	Phenol	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Me - M - 95%Hc	Mercury (Hg)	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Me - Meg - 95%Hc	Monoethyleneglycol	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	10.3	10.3	0.0	0.0	0.0	10.3	89.7	89.7	0.0	100.0	0.0	89.7	0.0	10.3	100.0
Me - B - 105%Hc	Benzene	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	46.9	31.2	78.1	12.0	0.1	12.0	90.1	9.9	9.8	0.0	100.0	58.9	9.9	0.1	31.2	100.0
Me - N - 105%Hc	Naphtalene	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	34.1	26.5	60.6	17.6	0.9	18.5	79.1	20.9	20.7	0.2	100.0	51.7	20.9	0.9	26.5	100.0
Me - Ph - 105%Hc	Phenol	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Me - M - 105%Hc	Mercury (Hg)	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Me - Meg - 105%Hc	Monoethyleneglycol	10	1.5	0.3	54	9	0.002	0.000013	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	10.3	10.3	0.0	0.0	0.0	10.3	89.7	89.7	0.0	100.0	0.0	89.7	0.0	10.3	100.0

Tab-identifier >	input	output	output	output	output	output	output	output		output	output	output	output	output
		Concentrations						Operation of the plant without primary settler						
Case Identifier	Name compound =	in air	in surplus sludge	in effluent (total)	dissolved	associated	in solids effluent	Sludge loading rate =	HRT =	SRT =	Aeration mode =	Surplus sludge =	Total wastewater =	
WWTP Melkoya														
Phase 1: Compound related														
Me - B - 95%MM	Benzene	0.0	28.6	0.6	0.6	0.0	28.6	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - N - 95%MM	Naphtalene	0.0	82.3	0.3	0.3	0.0	82.3	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Ph - 95%MM	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - M - 95%MM	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Meg - 95%MM	Monoethyleneglycol	0.0	33.1	896.8	896.8	0.0	33.1	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - B - 105%MM	Benzene	0.0	28.6	0.6	0.6	0.0	28.6	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - N - 105%MM	Naphtalene	0.0	82.3	0.3	0.3	0.0	82.3	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Ph - 105%MM	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - M - 105%MM	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Meg - 105%MM	Monoethyleneglycol	0.0	33.1	896.8	896.8	0.0	33.1	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - B - 95%Kow	Benzene	0.0	27.4	0.6	0.6	0.0	27.4	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - N - 95%Kow	Naphtalene	0.0	79.1	0.3	0.3	0.0	79.1	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Ph - 95%Kow	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - M - 95%Kow	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Meg - 95%Kow	Monoethyleneglycol	0.0	31.7	896.8	896.8	0.0	31.7	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - B - 105%Kow	Benzene	0.0	29.7	0.6	0.6	0.0	29.7	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - N - 105%Kow	Naphtalene	0.0	85.6	0.3	0.3	0.0	85.6	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Ph - 105%Kow	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - M - 105%Kow	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Meg - 105%Kow	Monoethyleneglycol	0.0	34.4	896.8	896.8	0.0	34.4	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - B - 95%Vp	Benzene	0.0	28.6	0.6	0.6	0.0	28.6	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - N - 95%Vp	Naphtalene	0.0	82.3	0.3	0.3	0.0	82.3	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Ph - 95%Vp	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - M - 95%Vp	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Meg - 95%Vp	Monoethyleneglycol	0.0	33.1	896.8	896.8	0.0	33.1	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - B - 105%Vp	Benzene	0.0	28.6	0.6	0.6	0.0	28.6	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - N - 105%Vp	Naphtalene	0.0	82.3	0.3	0.3	0.0	82.3	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Ph - 105%Vp	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - M - 105%Vp	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Meg - 105%Vp	Monoethyleneglycol	0.0	33.1	896.8	896.8	0.0	33.1	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - B - 95%Sol	Benzene	0.0	28.6	0.6	0.6	0.0	28.6	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - N - 95%Sol	Naphtalene	0.0	82.3	0.3	0.3	0.0	82.3	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Ph - 95%Sol	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - M - 95%Sol	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Meg - 95%Sol	Monoethyleneglycol	0.0	33.1	896.8	896.8	0.0	33.1	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - B - 105%Sol	Benzene	0.0	28.6	0.6	0.6	0.0	28.6	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - N - 105%Sol	Naphtalene	0.0	82.3	0.3	0.3	0.0	82.3	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Ph - 105%Sol	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - M - 105%Sol	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Meg - 105%Sol	Monoethyleneglycol	0.0	33.1	896.8	896.8	0.0	33.1	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - B - 95%Hc	Benzene	0.0	29.0	0.6	0.6	0.0	29.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - N - 95%Hc	Naphtalene	0.0	83.0	0.3	0.3	0.0	83.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Ph - 95%Hc	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - M - 95%Hc	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Meg - 95%Hc	Monoethyleneglycol	0.0	33.1	897.3	897.3	0.0	33.1	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - B - 105%Hc	Benzene	0.0	28.1	0.6	0.6	0.0	28.1	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - N - 105%Hc	Naphtalene	0.0	81.8	0.3	0.2	0.0	81.8	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Ph - 105%Hc	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - M - 105%Hc	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Meg - 105%Hc	Monoethyleneglycol	0.0	33.1	897.3	897.3	0.0	33.1	0.013	128.9	127.2	bubble aeration	11.7	84.0	

Tab-identifier >	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input
		Characterisation of the chemical									Emission scenario			Sewage										Biodegradation			
Case Identifier	Name compound =	Molecular weight =	Kow =	Vapour pressure =	Solubility =	Ka =	Kb =	Henry constant (H) =	Kp (raw sewage) =	Kp (activated sludge) =	T air =	T water =	Windspeed =	Operating mode : M/I	Sewage flow daily total l =	C compound inflow l =	Volume aerator	Sludge loading rate (table 1) =	Bubble or surface aeration: b/s	Input solids in raw sewage =	C susp solids raw sewage =	Temperature dependence (y/n)	method 1: k biodeg1 =	method 2: k biodeg2 =	method 3: mmax =	Ks =
Phase 2a: Climate; temperature =n											default = 15	default= 15	default = 3					default = 0.15 (medium)			*SS inflow*					
Me - B-T10air	Benzene	78.11	135	9999	1770			557.2875			10	15	3	I	84000	6.1	451	0.15	b	0.0001	*0.0005*	n	0.01125			
Me - N-T10air	Naphtalene	128.19	1950	12	31.7			46.6095			10	15	3	I	84000	1.2	451	0.15	b	0.0001	*0.0005*	n	0.00583333			
Me - Ph-T10air	Phenol	94.111	29	48	70000			3.04E+12			10	15	3	I	84000	20	451	0.15	b	0.0001	*0.0005*	n	0.00329167			
Me - M-T10air	Mercury (Hg)	271.52	3	0	74000			6.00E-04			10	15	3	I	84000	0.00004	451	0.15	b	0.0001	*0.0005*	n	0			
Me - Poe-T10air	Monoethyleneglycol	62.07	0	8	100			6.08E-03			10	15	3	I	84000	1000	451	0.15	b	0.0001	*0.0005*	n	0.0008875			
Me - B-T5air	Benzene	78.11	135	9999	1770			557.2875			5	15	3	I	84000	6.1	451	0.15	b	0.0001	*0.0005*	n	0.01125			
Me - N-T5air	Naphtalene	128.19	1950	12	31.7			46.6095			5	15	3	I	84000	1.2	451	0.15	b	0.0001	*0.0005*	n	0.00583333			
Me - Ph-T5air	Phenol	94.111	29	48	70000			3.04E+12			5	15	3	I	84000	20	451	0.15	b	0.0001	*0.0005*	n	0.00329167			
Me - M-T5air	Mercury (Hg)	271.52	3	0	74000			6.00E-04			5	15	3	I	84000	0.00004	451	0.15	b	0.0001	*0.0005*	n	0			
Me - Poe-T5air	Monoethyleneglycol	62.07	0	8	100			6.08E-03			5	15	3	I	84000	1000	451	0.15	b	0.0001	*0.0005*	n	0.0008875			
Me - B-T10water	Benzene	78.11	135	9999	1770			557.2875			15	10	3	I	84000	6.1	451	0.15	b	0.0001	*0.0005*	n	0.01125			
Me - N-T10water	Naphtalene	128.19	1950	12	31.7			46.6095			15	10	3	I	84000	1.2	451	0.15	b	0.0001	*0.0005*	n	0.00583333			
Me - Ph-T10water	Phenol	94.111	29	48	70000			3.04E+12			15	10	3	I	84000	20	451	0.15	b	0.0001	*0.0005*	n	0.00329167			
Me - M-T10water	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	10	3	I	84000	0.00004	451	0.15	b	0.0001	*0.0005*	n	0			
Me - Poe-T10water	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	10	3	I	84000	1000	451	0.15	b	0.0001	*0.0005*	n	0.0008875			
Me - B-T5water	Benzene	78.11	135	9999	1770			557.2875			15	5	3	I	84000	6.1	451	0.15	b	0.0001	*0.0005*	n	0.01125			
Me - N-T5water	Naphtalene	128.19	1950	12	31.7			46.6095			15	5	3	I	84000	1.2	451	0.15	b	0.0001	*0.0005*	n	0.00583333			
Me - Ph-T5water	Phenol	94.111	29	48	70000			3.04E+12			15	5	3	I	84000	20	451	0.15	b	0.0001	*0.0005*	n	0.00329167			
Me - M-T5water	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	5	3	I	84000	0.00004	451	0.15	b	0.0001	*0.0005*	n	0			
Me - Poe-T5water	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	5	3	I	84000	1000	451	0.15	b	0.0001	*0.0005*	n	0.0008875			
Me - B-wind6	Benzene	78.11	135	9999	1770			557.2875			15	15	6	I	84000	6.1	451	0.15	b	0.0001	*0.0005*	n	0.01125			
Me - N-wind6	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	6	I	84000	1.2	451	0.15	b	0.0001	*0.0005*	n	0.00583333			
Me - Ph-wind6	Phenol	94.111	29	48	70000			3.04E+12			15	15	6	I	84000	20	451	0.15	b	0.0001	*0.0005*	n	0.00329167			
Me - M-wind6	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	6	I	84000	0.00004	451	0.15	b	0.0001	*0.0005*	n	0			
Me - Poe-wind6	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	15	6	I	84000	1000	451	0.15	b	0.0001	*0.0005*	n	0.0008875			
Me - B-wind9	Benzene	78.11	135	9999	1770			557.2875			15	15	9	I	84000	6.1	451	0.15	b	0.0001	*0.0005*	n	0.01125			
Me - N-wind9	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	9	I	84000	1.2	451	0.15	b	0.0001	*0.0005*	n	0.00583333			
Me - Ph-wind9	Phenol	94.111	29	48	70000			3.04E+12			15	15	9	I	84000	20	451	0.15	b	0.0001	*0.0005*	n	0.00329167			
Me - M-wind9	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	9	I	84000	0.00004	451	0.15	b	0.0001	*0.0005*	n	0			
Me - Poe-wind9	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	15	9	I	84000	1000	451	0.15	b	0.0001	*0.0005*	n	0.0008875			
Phase 2b: Climate; temperature =y											default = 15	default= 15	default = 3					default = 0.15 (medium)			*SS inflow*					
Me - B-T10air	Benzene	78.11	135	9999	1770			557.2875			10	15	3	I	84000	6.1	451	0.15	b	0.0001	*0.0005*	n	0.01125			
Me - N-T10air	Naphtalene	128.19	1950	12	31.7			46.6095			10	15	3	I	84000	1.2	451	0.15	b	0.0001	*0.0005*	n	0.00583333			
Me - Ph-T10air	Phenol	94.111	29	48	70000			3.04E+12			10	15	3	I	84000	20	451	0.15	b	0.0001	*0.0005*	n	0.00329167			
Me - M-T10air	Mercury (Hg)	271.52	3	0	74000			6.00E-04			10	15	3	I	84000	0.00004	451	0.15	b	0.0001	*0.0005*	n	0			
Me - Poe-T10air	Monoethyleneglycol	62.07	0	8	100			6.08E-03			10	15	3	I	84000	1000	451	0.15	b	0.0001	*0.0005*	n	0.0008875			
Me - B-T5air	Benzene	78.11	135	9999	1770			557.2875			5	15	3	I	84000	6.1	451	0.15	b	0.0001	*0.0005*	n	0.01125			
Me - N-T5air	Naphtalene	128.19	1950	12	31.7			46.6095			5	15	3	I	84000	1.2	451	0.15	b	0.0001	*0.0005*	n	0.00583333			
Me - Ph-T5air	Phenol	94.111	29	48	70000			3.04E+12			5	15	3	I	84000	20	451	0.15	b	0.0001	*0.0005*	n	0.00329167			
Me - M-T5air	Mercury (Hg)	271.52	3	0	74000			6.00E-04			5	15	3	I	84000	0.00004	451	0.15	b	0.0001	*0.0005*	n	0			
Me - Poe-T5air	Monoethyleneglycol	62.07	0	8	100			6.08E-03			5	15	3	I	84000	1000	451	0.15	b	0.0001	*0.0005*	n	0.0008875			
Me - B-T10water	Benzene	78.11	135	9999	1770			557.2875			15	10	3	I	84000	6.1	451	0.15	b	0.0001	*0.0005*	n	0.01125			
Me - N-T10water	Naphtalene	128.19	1950	12	31.7			46.6095			15	10	3	I	84000	1.2	451	0.15	b	0.0001	*0.0005*	n	0.00583333			
Me - Ph-T10water	Phenol	94.111	29	48	70000			3.04E+12			15	10	3	I	84000	20	451	0.15	b	0.0001	*0.0005*	n	0.00329167			
Me - M-T10water	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	10	3	I	84000	0.00004	451	0.15	b	0.0001	*0.0005*	n	0			
Me - Poe-T10water	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	10	3	I	84000	1000	451	0.15	b	0.0001	*0.0005*	n	0.0008875			
Me - B-T5water	Benzene	78.11	135	9999	1770			557.2875			15	5	3	I	84000	6.1	451	0.15	b	0.0001	*0.0005*	n	0.01125			
Me - N-T5water	Naphtalene	128.19	1950	12	31.7			46.6095			15	5	3	I	84000	1.2	451	0.15	b	0.0001	*0.0005*	n	0.00583333			
Me - Ph-T5water	Phenol	94.111	29	48	70000			3.04E+12			15	5	3	I	84000	20	451	0.15	b	0.0001	*0.0005*	n	0.00329167			
Me - M-T5water	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	5	3	I	84000	0.00004	451	0.15	b	0.0001	*0.0005*	n	0			
Me - Poe-T5water	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	5	3	I	84000	1000	451	0.15	b	0.0001	*0.0005*	n	0.0008875			
Me - B-wind6	Benzene	78.11	135	9999	1770			557.2875			15	15	6	I	84000	6.1	451	0.15	b	0.0001	*0.0005*	n	0.01125			
Me - N-wind6	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	6	I	84000	1.2	451	0.15	b	0.0001	*0.0005*	n	0.00583333			
Me - Ph-wind6	Phenol	94.111	29	48	70000			3.04E+12			15	15	6	I	84000	20	451	0.15	b	0.0001	*0.0005*	n	0.00329167			
Me - M-wind6	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	6	I	84000	0.00004	451	0.15	b	0.0001	*0.0005*	n	0			
Me - Poe-wind6	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	15	6	I	84000	1000	451	0.15	b	0.0001	*0.0005*	n	0.0008875			
Me - B-wind9	Benzene	78.11	135	9999	1770			557.2875			15	15	9	I	84000	6.1	451	0.15	b	0.0001	*0.0005*	n	0.01125			
Me - N-wind9	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	9	I	84000	1.2	451	0.15	b	0.0001	*0.0005*	n	0.00583333			
Me - Ph-wind9	Phenol	94.111	29	48	70000			3.04E+12			15	15	9	I	84000	20	451	0.15	b	0.0001	*0.0005*	n	0.00329167			
Me - M-wind9	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	9	I	84000	0.00004	451	0.15	b	0.0001	*0.0005*	n	0			
Me - Poe-wind9	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	15	9	I	84000	1000	451	0.15	b	0.0001	*0.0005*	n	0.0008875			

Tab-identifier >	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	output	output	output	output	output	output	output	output	output	output	output	output	output
									6-box								Elimination in the aerator			Elimination in the solids liquid separator			Total elimination from waste water	Total emission via effluent				Summary of distribution				
Case Identifier	Name compound =	Height air column =	Density solids raw sewage =	Fraction oc raw sewage =	BOD in raw sewage =	Depth aerator =	Oxygen concentration =	Aeration rate (1.31E-05) =	C activated sludge =	Fraction oc activated sludge =	Density solids activated sludge =	Depth SLS =	HRTSLS =	C susp solids SLS =	Fraction oc solids SLS =	Density solids SLS =	stripping	biodegradation	total	volatilization	via surplus sludge	total		% dissolved	% associated	balance	to air	to water	via surplus sludge	degraded	total
Phase 2a: Climate; temperature =n																															
Me - B-T10air	Benzene	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	46.2	31.6	77.8	12.1	0.1	12.2	90.0	10.0	10.0	0.0	100.0	58.3	10.0	0.1	31.6	100.0
Me - N-T10air	Naphtalene	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	33.9	26.6	60.4	17.5	1.0	18.5	78.9	21.1	20.9	0.2	100.0	51.4	21.1	1.0	26.6	100.0
Me - Ph-T10air	Phenol	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Me - M-T10air	Mercury (Hg)	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Me - Poe-T10air	Monoethyleneglycol	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	10.3	10.3	0.0	0.0	0.0	10.3	89.7	89.7	0.0	100.0	0.1	89.7	0.0	10.3	100.0
Me - B-T5air	Benzene	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	46.4	31.5	77.9	12.1	0.1	12.1	90.0	10.0	10.0	0.0	100.0	58.5	10.0	0.1	31.5	100.0
Me - N-T5air	Naphtalene	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	34.0	26.5	60.5	17.6	0.9	18.5	79.0	21.0	20.8	0.2	100.0	51.5	21.0	0.9	26.5	100.0
Me - Ph-T5air	Phenol	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Me - M-T5air	Mercury (Hg)	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Me - Poe-T5air	Monoethyleneglycol	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	10.3	10.3	0.0	0.0	0.0	10.3	89.7	89.7	0.0	100.0	0.1	89.7	0.0	10.3	100.0
Me - B-T10water	Benzene	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	46.1	31.7	77.8	12.1	0.1	12.2	90.0	10.0	10.0	0.0	100.0	58.2	10.0	0.1	31.7	100.0
Me - N-T10water	Naphtalene	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	33.7	26.6	60.4	17.5	1.0	18.5	78.8	21.2	21.0	0.2	100.0	51.2	21.2	1.0	26.6	100.0
Me - Ph-T10water	Phenol	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Me - M-T10water	Mercury (Hg)	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Me - Poe-T10water	Monoethyleneglycol	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	10.3	10.3	0.0	0.0	0.0	10.3	89.7	89.7	0.0	100.0	0.1	89.7	0.0	10.3	100.0
Me - B-T5water	Benzene	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	46.1	31.7	77.8	12.1	0.1	12.2	90.0	10.0	10.0	0.0	100.0	58.2	10.0	0.1	31.7	100.0
Me - N-T5water	Naphtalene	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	33.7	26.6	60.4	17.5	1.0	18.5	78.8	21.2	21.0	0.2	100.0	51.2	21.2	1.0	26.6	100.0
Me - Ph-T5water	Phenol	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Me - M-T5water	Mercury (Hg)	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Me - Poe-T5water	Monoethyleneglycol	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	10.3	10.3	0.0	0.0	0.0	10.3	89.7	89.7	0.0	100.0	0.1	89.7	0.0	10.3	100.0
Me - B-wind6	Benzene	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	46.1	31.7	77.8	12.1	0.1	12.2	90.0	10.0	10.0	0.0	100.0	58.2	10.0	0.1	31.7	100.0
Me - N-wind6	Naphtalene	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	33.7	26.6	60.4	17.5	1.0	18.5	78.8	21.2	21.0	0.2	100.0	51.2	21.2	1.0	26.6	100.0
Me - Ph-wind6	Phenol	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Me - M-wind6	Mercury (Hg)	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Me - Poe-wind6	Monoethyleneglycol	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	10.3	10.3	0.0	0.0	0.0	10.3	89.7	89.7	0.0	100.0	0.1	89.7	0.0	10.3	100.0
Me - B-wind9	Benzene	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	46.1	31.7	77.8	12.1	0.1	12.2	90.0	10.0	10.0	0.0	100.0	58.2	10.0	0.1	31.7	100.0
Me - N-wind9	Naphtalene	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	33.7	26.6	60.4	17.5	1.0	18.5	78.8	21.2	21.0	0.2	100.0	51.2	21.2	1.0	26.6	100.0
Me - Ph-wind9	Phenol	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Me - M-wind9	Mercury (Hg)	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Me - Poe-wind9	Monoethyleneglycol	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	10.3	10.3	0.0	0.0	0.0	10.3	89.7	89.7	0.0	100.0	0.1	89.7	0.0	10.3	100.0
Phase 2b: Climate; temperature =y																															
Me - B-T10air	Benzene	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	46.2	31.6	77.8	12.1	0.1	12.2	90.0	10.0	10.0	0.0	100.0	58.3	10.0	0.1	31.6	100.0
Me - N-T10air	Naphtalene	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	33.9	26.6	60.4	17.5	1.0	18.5	78.9	21.1	20.9	0.2	100.0	51.4	21.1	1.0	26.6	100.0
Me - Ph-T10air	Phenol	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Me - M-T10air	Mercury (Hg)	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Me - Poe-T10air	Monoethyleneglycol	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	10.3	10.3	0.0	0.0	0.0	10.3	89.7	89.7	0.0	100.0	0.1	89.7	0.0	10.3	100.0
Me - B-T5air	Benzene	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	46.4	31.5	77.9	12.1	0.1	12.1	90.0	10.0	10.0	0.0	100.0	58.5	10.0	0.1	31.5	100.0
Me - N-T5air	Naphtalene	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	34.0	26.5	60.5	17.6	0.9	18.5	79.0	21.0	20.8	0.2	100.0	51.5	21.0	0.9	26.5	100.0
Me - Ph-T5air	Phenol	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Me - M-T5air	Mercury (Hg)	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Me - Poe-T5air	Monoethyleneglycol	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	10.3	10.3	0.0	0.0	0.0	10.3	89.7	89.7	0.0	100.0	0.1	89.7	0.0	10.3	100.0
Me - B-T10water	Benzene	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	46.1	31.7	77.8	12.1	0.1	12.2	90.0	10.0	10.0	0.0	100.0	58.2	10.0	0.1	31.7	100.0
Me - N-T10water	Naphtalene	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	33.7	26.6	60.4	17.5	1.0	18.5	78.8	21.2	21.0	0.2	100.0	51.2	21.2	1.0	26.6	100.0
Me - Ph-T10water	Phenol	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Me - M-T10water	Mercury (Hg)	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Me - Poe-T10water	Monoethyleneglycol	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	10.3	10.3	0.0	0.0	0.0	10.3	89.7	89.7	0.0	100.0	0.1	89.7	0.0	10.3	100.0
Me - B-T5water	Benzene	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	46.1	31.7	77.8	12.1	0.1	12.2	90.0	10.0	10.0	0.0	100.0	58.2	10.0	0.1	31.7	100.0
Me - N-T5water	Naphtalene	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	33.7	26.6	60.4	17.5	1.0	18.5	78.8	21.2	21.0	0.2	100.0	51.2	21.2	1.0	26.6	100.0
Me - Ph-T5water	Phenol	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Me - M-T5water	Mercury (Hg)	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Me - Poe-T5water	Monoethyleneglycol	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	10.3	10.3	0.0	0.0	0.0	10.3	89.7	89.7	0.0	100.0	0.1	89.7	0.0	10.3	100.0
Me - B-wind6	Benzene	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	46.1	31.7	77.8	12.1	0.1	12.2	90.0	10.0	10.0	0.0	100.0	58.2	10.0	0.1	31.7	100.0
Me - N-wind6	Naphtalene	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	33.7	26.6	60.4	17.5	1.0	18.5	78.8	21.2	21.0	0.2	100.0	51.2	21.2	1.0	26.6	100.0
Me - Ph-wind6	Phenol	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Me - M-wind6	Mercury (Hg)	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Me - Poe-wind6	Monoethyleneglycol	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	10.3	10.3	0.0	0.0	0.0	10.3	89.7	89.7	0.0	100.0	0.1	89.7	0.0	10.3	100.0
Me - B-wind9	Benzene	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	46.1	31.7	77.8	12.1	0.1	12.2	90.0	10.0	10.0	0.0	100.0	58.2	10.0	0.1	31.7	100.0
Me - N-wind9	Naphtalene	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	33.7	26.6	60.4	17.5	1.0	18.5	78.8	21.2	21.0	0.2	100.0	51.2	21.2	1.0	26.6	100.0
Me - Ph-wind9	Phenol	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Me - M-wind9	Mercury (Hg)	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Me - Poe-wind9	Monoethyleneglycol	10	1.5	0.3	54	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	10.3	10.3	0.0	0.0	0.0	10.3	89.7	89.7	0.0	100.0	0.1	89.7	0.0	10.3	100.0

Tab-identifier >	input	output	output	output	output	output	output	output		output	output	output	output	output
		Concentrations						Operation of the plant without primary settler						
Case Identifier	Name compound =	in air	in surplus sludge	in effluent (total)	dissolved	associated	in solids effluent	Sludge loading rate =	HRT =	SRT =	Aeration mode =	Surplus sludge =	Total wastewater =	
Phase 2a: Climate; temperature =n														
Me - B-T10air	Benzene	0.0	28.5	0.6	0.6	0.0	28.5	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - N-T10air	Naphtalene	0.0	82.1	0.3	0.3	0.0	82.1	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Ph-T10air	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - M-T10air	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Poe-T10air	Monoethyleneglycol	0.0	33.1	896.8	896.8	0.0	33.1	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - B-T5air	Benzene	0.0	28.4	0.6	0.6	0.0	28.4	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - N-T5air	Naphtalene	0.0	81.9	0.3	0.2	0.0	81.9	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Ph-T5air	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - M-T5air	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Poe-T5air	Monoethyleneglycol	0.0	33.1	896.8	896.8	0.0	33.1	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - B-T10water	Benzene	0.0	28.6	0.6	0.6	0.0	28.6	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - N-T10water	Naphtalene	0.0	82.3	0.3	0.3	0.0	82.3	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Ph-T10water	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - M-T10water	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Poe-T10water	Monoethyleneglycol	0.0	33.1	896.8	896.8	0.0	33.1	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - B-T5water	Benzene	0.0	28.6	0.6	0.6	0.0	28.6	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - N-T5water	Naphtalene	0.0	82.3	0.3	0.3	0.0	82.3	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Ph-T5water	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - M-T5water	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Poe-T5water	Monoethyleneglycol	0.0	33.1	896.8	896.8	0.0	33.1	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - B-wind6	Benzene	0.0	28.6	0.6	0.6	0.0	28.6	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - N-wind6	Naphtalene	0.0	82.3	0.3	0.3	0.0	82.3	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Ph-wind6	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - M-wind6	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Poe-wind6	Monoethyleneglycol	0.0	33.1	896.8	896.8	0.0	33.1	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - B-wind9	Benzene	0.0	28.6	0.6	0.6	0.0	28.6	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - N-wind9	Naphtalene	0.0	82.3	0.3	0.3	0.0	82.3	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Ph-wind9	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - M-wind9	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Poe-wind9	Monoethyleneglycol	0.0	33.1	896.8	896.8	0.0	33.1	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Phase 2b: Climate; temperature =y														
Me - B-T10air	Benzene	0.0	28.5	0.6	0.6	0.0	28.5	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - N-T10air	Naphtalene	0.0	82.1	0.3	0.3	0.0	82.1	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Ph-T10air	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - M-T10air	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Poe-T10air	Monoethyleneglycol	0.0	33.1	896.8	896.8	0.0	33.1	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - B-T5air	Benzene	0.0	28.4	0.6	0.6	0.0	28.4	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - N-T5air	Naphtalene	0.0	81.9	0.3	0.2	0.0	81.9	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Ph-T5air	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - M-T5air	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Poe-T5air	Monoethyleneglycol	0.0	33.1	896.8	896.8	0.0	33.1	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - B-T10water	Benzene	0.0	28.6	0.6	0.6	0.0	28.6	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - N-T10water	Naphtalene	0.0	82.3	0.3	0.3	0.0	82.3	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Ph-T10water	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - M-T10water	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Poe-T10water	Monoethyleneglycol	0.0	33.1	896.8	896.8	0.0	33.1	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - B-T5water	Benzene	0.0	28.6	0.6	0.6	0.0	28.6	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - N-T5water	Naphtalene	0.0	82.3	0.3	0.3	0.0	82.3	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Ph-T5water	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - M-T5water	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Poe-T5water	Monoethyleneglycol	0.0	33.1	896.8	896.8	0.0	33.1	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - B-wind6	Benzene	0.0	28.6	0.6	0.6	0.0	28.6	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - N-wind6	Naphtalene	0.0	82.3	0.3	0.3	0.0	82.3	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Ph-wind6	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - M-wind6	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Poe-wind6	Monoethyleneglycol	0.0	33.1	896.8	896.8	0.0	33.1	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - B-wind9	Benzene	0.0	28.6	0.6	0.6	0.0	28.6	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - N-wind9	Naphtalene	0.0	82.3	0.3	0.3	0.0	82.3	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Ph-wind9	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - M-wind9	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Poe-wind9	Monoethyleneglycol	0.0	33.1	896.8	896.8	0.0	33.1	0.013	128.9	127.2	bubble aeration	11.7	84.0	

Tab-identifier >	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input
		Characterisation of the chemical									Emission scenario			Sewage											Biodegradation			
Case Identifier	Name compound =	Molecular weight =	Kow =	Vapour pressure =	Solubility =	Ka =	Kb =	Henry constant (H) =	Kp (raw sewage) =	Kp (activated sludge) =	T air =	T water =	Windspeed =	Operating mode : M/I	Sewage flow daily total l =	C compound inflow l =	Volume aerator	Sludge loading rate (table 1) =	Bubble or surface aeration: b/s	Input solids in raw sewage =	C susp solids raw sewage =	Temperature dependence (y/n)	method 1: k biodeg1 =	method 2: k biodeg2 =	method 3: mmax =	Ks =
Phase 3: Sewage											default = 15	default= 15	default = 3					default = 0.15 (medium)			*SS inflow*					
Me - B- 95%Q1	Benzene	78.11	135	9999	1770			557.2875			15	15	3	I	79800	6.1	451	0.15	b	0.0001	*0.0005*	n	0.01125			
Me - N- 95%Q1	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3	I	79800	1.2	451	0.15	b	0.0001	*0.0005*	n	0.00583333			
Me - Ph- 95%Q1	Phenol	94.111	29	48	70000			3.04E+12			15	15	3	I	79800	20	451	0.15	b	0.0001	*0.0005*	n	0.00329167			
Me - M- 95%Q1	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	79800	0.00004	451	0.15	b	0.0001	*0.0005*	n	0			
Me - Meg- 95%Q1	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	15	3	I	79800	1000	451	0.15	b	0.0001	*0.0005*	n	0.0008875			
Me - B- 105%Q1	Benzene	78.11	135	9999	1770			557.2875			15	15	3	I	88200	6.1	451	0.15	b	0.0001	*0.0005*	n	0.01125			
Me - N- 105%Q1	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3	I	88200	1.2	451	0.15	b	0.0001	*0.0005*	n	0.00583333			
Me - Ph- 105%Q1	Phenol	94.111	29	48	70000			3.04E+12			15	15	3	I	88200	20	451	0.15	b	0.0001	*0.0005*	n	0.00329167			
Me - M- 105%Q1	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	88200	0.00004	451	0.15	b	0.0001	*0.0005*	n	0			
Me - Meg- 105%Q1	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	15	3	I	88200	1000	451	0.15	b	0.0001	*0.0005*	n	0.0008875			
Me - B- 95%[c]inflow	Benzene	78.11	135	9999	1770			557.2875			15	15	3	I	84000	5.795	451	0.15	b	0.0001	*0.0005*	n	0.01125			
Me - N- 95%[c]inflow	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3	I	84000	1.14	451	0.15	b	0.0001	*0.0005*	n	0.00583333			
Me - Ph- 95%[c]inflow	Phenol	94.111	29	48	70000			3.04E+12			15	15	3	I	84000	19	451	0.15	b	0.0001	*0.0005*	n	0.00329167			
Me - M- 95%[c]inflow	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	84000	0.000038	451	0.15	b	0.0001	*0.0005*	n	0			
Me - Meg- 95%[c]inflow	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	15	3	I	84000	950	451	0.15	b	0.0001	*0.0005*	n	0.0008875			
Me - B- 105%[c]inflow	Benzene	78.11	135	9999	1770			557.2875			15	15	3	I	84000	6.405	451	0.15	b	0.0001	*0.0005*	n	0.01125			
Me - N- 105%[c]inflow	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3	I	84000	1.26	451	0.15	b	0.0001	*0.0005*	n	0.00583333			
Me - Ph- 105%[c]inflow	Phenol	94.111	29	48	70000			3.04E+12			15	15	3	I	84000	21	451	0.15	b	0.0001	*0.0005*	n	0.00329167			
Me - M- 105%[c]inflow	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	84000	0.000042	451	0.15	b	0.0001	*0.0005*	n	0			
Me - Meg- 105%[c]inflow	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	15	3	I	84000	1050	451	0.15	b	0.0001	*0.0005*	n	0.0008875			
Me - B- SLR(low)	Benzene	78.11	135	9999	1770			557.2875			15	15	3	I	84000	6.1	451	0.06	b	0.0001	*0.0005*	n	0.01125			
Me - N- SLR(low)	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3	I	84000	1.2	451	0.06	b	0.0001	*0.0005*	n	0.00583333			
Me - Ph- SLR(low)	Phenol	94.111	29	48	70000			3.04E+12			15	15	3	I	84000	20	451	0.06	b	0.0001	*0.0005*	n	0.00329167			
Me - M- SLR(low)	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	84000	0.00004	451	0.06	b	0.0001	*0.0005*	n	0			
Me - Meg- SLR(low)	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	15	3	I	84000	1000	451	0.06	b	0.0001	*0.0005*	n	0.0008875			
Me - B- SLR(high)	Benzene	78.11	135	9999	1770			557.2875			15	15	3	I	84000	6.1	451	0.3	b	0.0001	*0.0005*	n	0.01125			
Me - N- SLR(high)	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3	I	84000	1.2	451	0.3	b	0.0001	*0.0005*	n	0.00583333			
Me - Ph- SLR(high)	Phenol	94.111	29	48	70000			3.04E+12			15	15	3	I	84000	20	451	0.3	b	0.0001	*0.0005*	n	0.00329167			
Me - M- SLR(high)	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	84000	0.00004	451	0.3	b	0.0001	*0.0005*	n	0			
Me - Meg- SLR(high)	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	15	3	I	84000	1000	451	0.3	b	0.0001	*0.0005*	n	0.0008875			
Me - B- 95%[SS]	Benzene	78.11	135	9999	1770			557.2875			15	15	3	I	84000	6.1	451	0.15	b	0.000095	*0.000475*	n	0.01125			
Me - N- 95%[SS]	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3	I	84000	1.2	451	0.15	b	0.000095	*0.000475*	n	0.00583333			
Me - Ph- 95%[SS]	Phenol	94.111	29	48	70000			3.04E+12			15	15	3	I	84000	20	451	0.15	b	0.000095	*0.000475*	n	0.00329167			
Me - M- 95%[SS]	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	84000	0.00004	451	0.15	b	0.000095	*0.000475*	n	0			
Me - Meg- 95%[SS]	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	15	3	I	84000	1000	451	0.15	b	0.000095	*0.000475*	n	0.0008875			
Me - B- 105%[SS]	Benzene	78.11	135	9999	1770			557.2875			15	15	3	I	84000	6.1	451	0.15	b	0.000105	*0.000525*	n	0.01125			
Me - N- 105%[SS]	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3	I	84000	1.2	451	0.15	b	0.000105	*0.000525*	n	0.00583333			
Me - Ph- 105%[SS]	Phenol	94.111	29	48	70000			3.04E+12			15	15	3	I	84000	20	451	0.15	b	0.000105	*0.000525*	n	0.00329167			
Me - M- 105%[SS]	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	84000	0.00004	451	0.15	b	0.000105	*0.000525*	n	0			
Me - Meg- 105%[SS]	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	15	3	I	84000	1000	451	0.15	b	0.000105	*0.000525*	n	0.0008875			
Me - B- surfacebubble	Benzene	78.11	135	9999	1770			557.2875			15	15	3	I	84000	6.1	451	0.15	s	0.0001	*0.0005*	n	0.01125			
Me - N- surfacebubble	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3	I	84000	1.2	451	0.15	s	0.0001	*0.0005*	n	0.00583333			
Me - Ph- surfacebubble	Phenol	94.111	29	48	70000			3.04E+12			15	15	3	I	84000	20	451	0.15	s	0.0001	*0.0005*	n	0.00329167			
Me - M- surfacebubble	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	84000	0.00004	451	0.15	s	0.0001	*0.0005*	n	0			
Me - Meg- surfacebubble	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	15	3	I	84000	1000	451	0.15	s	0.0001	*0.0005*	n	0.0008875			
Phase 4: Biodegradation											default = 15	default= 15	default = 3					default = 0.15 (medium)			*SS inflow*					
Me - B- 95%k biodeg	Benzene	78.11	135	9999	1770			557.2875			15	15	3	I	84000	6.1	451	0.15	b	0.0001	*0.0005*	n	0.0106875			
Me - N- 95%k biodeg	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3	I	84000	1.2	451	0.15	b	0.0001	*0.0005*	n	0.00554167			
Me - Ph- 95%k biodeg	Phenol	94.111	29	48	70000			3.04E+12			15	15	3	I	84000	20	451	0.15	b	0.0001	*0.0005*	n	0.00312708			
Me - M- 95%k biodeg	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	84000	0.00004	451	0.15	b	0.0001	*0.0005*	n	0			
Me - Meg- 95%k biodeg	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	15	3	I	84000	1000	451	0.15	b	0.0001	*0.0005*	n	0.00084313			
Me - B- 105%k biodeg	Benzene	78.11	135	9999	1770			557.2875			15	15	3	I	84000	6.1	451	0.15	b	0.0001	*0.0005*	n	0.0118125			
Me - N- 105%k biodeg	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3	I	84000	1.2	451	0.15	b	0.0001	*0.0005*	n	0.006125			
Me - Ph- 105%k biodeg	Phenol	94.111	29	48	70000			3.04E+12			15	15	3	I	84000	20	451	0.15	b	0.0001	*0.0005*	n	0.00345625			
Me - M- 105%k biodeg	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	84000	0.00004	451	0.15	b	0.0001	*0.0005*	n	0			
Me - Meg- 105%k biodeg	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	15	3	I	84000	1000	451	0.15	b	0.0001	*0.0005*	n	0.00093188			
Me - B- 95%k biodeg T5	Benzene	78.11	135	9999	1770			557.2875			15	5	3	I	84000	6.1	451	0.15	b	0.0001	*0.0005*	y	0.0106875			
Me - N- 95%k biodeg T5	Naphtalene	128.19	1950	12	31.7			46.6095			15	5	3	I	84000	1.2	451	0.15	b	0.0001	*0.0005*	y	0.00554167			
Me - Ph- 95%k biodeg T5	Phenol	94.111	29	48	70000			3.04E+12			15	5	3	I	84000	20	451	0.15	b	0.0001	*0.0005*	y	0.00312708			
Me - M- 95%k biodeg T5	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	5	3	I	84000	0.00004	451	0.15	b	0.0001	*0.0005*	y	0			
Me - Meg- 95%k biodeg T5	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	5	3	I	84000	1000	451	0.15	b	0.0001	*0.0005*	y	0.00084313			
Phase 5: Size primaire sedimentation system											default = 15	default= 15	default = 3					default = 0.15 (medium)			*SS inflow*					
Me - B - PSS	Benzene	78.11	135	9999	1770			557.2875			15	15	3	I	84000	6.1	451	0.15	b	0.0001	*0.0005*	n	0.01125			
Me - N - PSS	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3	I	84000	1.2	451	0.15	b	0.0001	*0.0005*	n	0.00583333			
Me - Ph - PSS	Phenol	94.111	29	48	70000			3.04E+12			15	15	3	I	84000	20	451	0.15	b	0.0001	*0.0005*	n	0.00329167			
Me - M - PSS	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	84000	0.00004	451	0.15	b	0.0001	*0.0005*	n	0			
Me - Meg - PSS	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	15	3	I	84000	1000	451	0.15	b	0.0001	*0.0005*	n	0.0008875			

Tab-identifier >	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	output	output	output	output	output	output	output	output	output	output	output	output	output
									6-box								Elimination in the aerator			Elimination in the solids liquid separator			Total elimination from waste water	Total emission via effluent				Summary of distribution				
Case Identifier	Name compound =	Height air column =	Density solids raw sewage =	Fraction oc raw sewage =	BOD in raw sewage =	Depth aerator =	Oxygen concentration =	Aeration rate (1.31E-05) =	C activated sludge =	Fraction oc activated sludge =	Density solids activated sludge =	Depth SLS =	HRTSLS =	C susp solids SLS =	Fraction oc solids SLS =	Density solids SLS =	stripping	biodegradation	total	volatilization	via surplus sludge	total		% dissolved	% associated	balance	to air	to water	via surplus sludge	degraded	total
Phase 3: Sewage																															
Me - B- 95%Q1	Benzene	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	46.2	32.3	78.5	11.7	0.1	11.8	90.3	9.7	9.7	0.0	100.0	57.9	9.7	0.1	32.3	100.0
Me - N- 95%Q1	Naphtalene	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	34.4	27.2	61.6	17.0	0.9	17.9	79.5	20.5	20.3	0.2	100.0	51.4	20.5	0.9	27.2	100.0
Me - Ph- 95%Q1	Phenol	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Me - M- 95%Q1	Mercury (Hg)	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Me - Meg- 95%Q1	Monoethyleneglycol	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	10.7	10.8	0.0	0.0	0.0	10.8	89.2	89.2	0.0	100.0	0.1	89.2	0.0	10.7	100.0
Me - B- 105%Q1	Benzene	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	46.0	31.1	77.1	12.5	0.1	12.6	89.7	10.3	10.3	0.0	100.0	58.5	10.3	0.1	31.1	100.0
Me - N- 105%Q1	Naphtalene	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	33.1	26.1	59.2	18.0	1.0	19.0	78.2	21.8	21.6	0.2	100.0	51.1	21.8	1.0	26.1	100.0
Me - Ph- 105%Q1	Phenol	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Me - M- 105%Q1	Mercury (Hg)	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Me - Meg- 105%Q1	Monoethyleneglycol	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	9.8	9.8	0.0	0.0	0.0	9.9	90.1	90.1	0.0	100.0	0.1	90.1	0.0	9.8	100.0
Me - B- 95%[c]nflow	Benzene	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	46.1	31.7	77.8	12.1	0.1	12.2	90.0	10.0	10.0	0.0	100.0	58.2	10.0	0.1	31.7	100.0
Me - N- 95%[c]nflow	Naphtalene	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	33.7	26.6	60.4	17.5	1.0	18.5	78.8	21.2	21.0	0.2	100.0	51.2	21.2	1.0	26.6	100.0
Me - Ph- 95%[c]nflow	Phenol	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Me - M- 95%[c]nflow	Mercury (Hg)	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Me - Meg- 95%[c]nflow	Monoethyleneglycol	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	10.3	10.3	0.0	0.0	0.0	10.3	89.7	89.7	0.0	100.0	0.1	89.7	0.0	10.3	100.0
Me - B- 105%[c]nflow	Benzene	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	46.1	31.7	77.8	12.1	0.1	12.2	90.0	10.0	10.0	0.0	100.0	58.2	10.0	0.1	31.7	100.0
Me - N- 105%[c]nflow	Naphtalene	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	33.7	26.6	60.4	17.5	1.0	18.5	78.8	21.2	21.0	0.2	100.0	51.2	21.2	1.0	26.6	100.0
Me - Ph- 105%[c]nflow	Phenol	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Me - M- 105%[c]nflow	Mercury (Hg)	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Me - Meg- 105%[c]nflow	Monoethyleneglycol	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	10.3	10.3	0.0	0.0	0.0	10.3	89.7	89.7	0.0	100.0	0.1	89.7	0.0	10.3	100.0
Me - B- SLR(low)	Benzene	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	46.1	31.7	77.8	12.1	0.1	12.2	90.0	10.0	10.0	0.0	100.0	58.2	10.0	0.1	31.7	100.0
Me - N- SLR(low)	Naphtalene	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	33.7	26.6	60.4	17.5	1.0	18.5	78.8	21.2	21.0	0.2	100.0	51.2	21.2	1.0	26.6	100.0
Me - Ph- SLR(low)	Phenol	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Me - M- SLR(low)	Mercury (Hg)	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Me - Meg- SLR(low)	Monoethyleneglycol	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	10.3	10.3	0.0	0.0	0.0	10.3	89.7	89.7	0.0	100.0	0.1	89.7	0.0	10.3	100.0
Me - B- SLR(high)	Benzene	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	46.1	31.7	77.8	12.1	0.1	12.2	90.0	10.0	10.0	0.0	100.0	58.2	10.0	0.1	31.7	100.0
Me - N- SLR(high)	Naphtalene	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	33.7	26.6	60.4	17.5	1.0	18.5	78.8	21.2	21.0	0.2	100.0	51.2	21.2	1.0	26.6	100.0
Me - Ph- SLR(high)	Phenol	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Me - M- SLR(high)	Mercury (Hg)	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Me - Meg- SLR(high)	Monoethyleneglycol	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	10.3	10.3	0.0	0.0	0.0	10.3	89.7	89.7	0.0	100.0	0.1	89.7	0.0	10.3	100.0
Me - B- 95%[SS]	Benzene	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	46.1	31.7	77.8	12.1	0.1	12.2	90.0	10.0	10.0	0.0	100.0	58.2	10.0	0.1	31.7	100.0
Me - N- 95%[SS]	Naphtalene	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	33.7	26.6	60.4	17.5	1.0	18.5	78.8	21.2	21.0	0.2	100.0	51.2	21.2	1.0	26.6	100.0
Me - Ph- 95%[SS]	Phenol	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Me - M- 95%[SS]	Mercury (Hg)	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Me - Meg- 95%[SS]	Monoethyleneglycol	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	10.3	10.3	0.0	0.0	0.0	10.3	89.7	89.7	0.0	100.0	0.1	89.7	0.0	10.3	100.0
Me - B- 105%[SS]	Benzene	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	46.1	31.7	77.8	12.1	0.1	12.2	90.0	10.0	10.0	0.0	100.0	58.2	10.0	0.1	31.7	100.0
Me - N- 105%[SS]	Naphtalene	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	33.7	26.6	60.4	17.5	1.0	18.5	78.8	21.2	21.0	0.2	100.0	51.2	21.2	1.0	26.6	100.0
Me - Ph- 105%[SS]	Phenol	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Me - M- 105%[SS]	Mercury (Hg)	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Me - Meg- 105%[SS]	Monoethyleneglycol	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	10.3	10.3	0.0	0.0	0.0	10.3	89.7	89.7	0.0	100.0	0.1	89.7	0.0	10.3	100.0
Me - B- surfacebubble	Benzene	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	69.7	17.8	87.5	6.8	0.0	6.9	94.4	5.6	5.6	0.0	100.0	76.5	5.6	0.0	17.8	100.0
Me - N- surfacebubble	Naphtalene	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	38.3	24.8	63.1	16.3	0.9	17.2	80.3	19.7	19.5	0.2	100.0	54.6	19.7	0.9	24.8	100.0
Me - Ph- surfacebubble	Phenol	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	94.5	1.6	96.1	2.2	0.0	2.2	98.3	1.7	1.7	0.0	100.0	96.7	1.7	0.0	1.6	100.0
Me - M- surfacebubble	Mercury (Hg)	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Me - Meg- surfacebubble	Monoethyleneglycol	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	10.3	10.3	0.0	0.0	0.0	10.3	89.7	89.7	0.0	100.0	0.1	89.7	0.0	10.3	100.0
Phase 4: Biodegradation																															
Me - B- 95%k biodeg	Benzene	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	46.9	30.6	77.4	12.3	0.1	12.4	89.8	10.2	10.2	0.0	100.0	59.2	10.2	0.1	30.6	100.0
Me - N- 95%k biodeg	Naphtalene	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	34.2	25.6	59.8	17.7	1.0	18.7	78.5	21.5	21.3	0.2	100.0	51.9	21.5	1.0	25.6	100.0
Me - Ph- 95%k biodeg	Phenol	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Me - M- 95%k biodeg	Mercury (Hg)	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Me - Meg- 95%k biodeg	Monoethyleneglycol	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	9.8	9.8	0.0	0.0	0.0	9.9	90.1	90.1	0.0	100.0	0.1	90.1	0.0	9.8	100.0
Me - B- 105%k biodeg	Benzene	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	45.4	32.7	78.1	11.9	0.1	12.0	90.1	9.9	9.9	0.0	100.0	57.3	9.9	0.1	32.7	100.0
Me - N- 105%k biodeg	Naphtalene	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	33.3	27.6	60.9	17.3	0.9	18.2	79.1	20.9	20.7	0.2	100.0	50.6	20.9	0.9	27.6	100.0
Me - Ph- 105%k biodeg	Phenol	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Me - M- 105%k biodeg	Mercury (Hg)	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Me - Meg- 105%k biodeg	Monoethyleneglycol	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	10.7	10.7	0.0	0.0	0.0	10.8	89.2	89.2	0.0	100.0	0.1	89.2	0.0	10.7	100.0
Me - B- 95%k biodeg T5	Benzene	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	58.4	13.4	71.9	15.4	0.1	15.4	87.3	12.7	12.7	0.0	100.0	73.8	12.7	0.1	13.4	100.0
Me - N- 95%k biodeg T5	Naphtalene	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	41.0	10.8	51.8	21.3	1.2	22.4	74.3	25.7	25.5	0.3	100.0	62.3	25.7	1.2	10.8	100.0
Me - Ph- 95%k biodeg T5	Phenol	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Me - M- 95%k biodeg T5	Mercury (Hg)	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Me - Meg- 95%k biodeg T5	Monoethyleneglycol	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	3.7	3.7	0.0	0.0	0.0	3.8	96.2	96.2	0.0	100.0	0.1	96.2	0.0	3.7	100.0
Phase 5: Size primaire sedimentation system																															
Me - B - PSS	Benzene	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	46.1	31.7	77.8	12.1	0.1	12.2	90.0	10.0	10.0	0.0	100.0	58.2	10.0	0.1	31.7	100.0
Me - N - PSS	Naphtalene	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	33.7	26.6	60.4	17.5	1.0	18.5	78.8	21.2	21.0	0.2	100.0	51.2	21.2	1.0	26.6	100.0
Me - Ph - PSS	Phenol	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Me - M - PSS	Mercury (Hg)	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Me - Meg - PSS	Monoethyleneglycol	10	1.5	0.3	5%	9	0.002	1.30E-05	4	0.37	1.3	5	63.142857	0.03	0.37	1.3	0.0	10.3	10.3	0.0	0.0	0.0	10.3	89.7	89.7	0.0	100.0	0.1	89.7	0.0	10.3	100.0

Tab-identifier >	input	output	output	output	output	output	output	output		output	output	output	output	output
		Concentrations						Operation of the plant without primary settler						
Case Identifier	Name compound =	in air	in surplus sludge	in effluent (total)	dissolved	associated	in solids effluent	Sludge loading rate =	HRT =	SRT =	Aeration mode =	Surplus sludge =	Total wastewater =	
Phase 3: Sewage														
Me - B- 95%Q1	Benzene	0.0	27.7	0.6	0.6	0.0	27.7	0.012	135.6	134.4	bubble aeration	11.0	79.8	
Me - N- 95%Q1	Naphtalene	0.0	79.8	0.2	0.2	0.0	79.8	0.012	135.6	134.4	bubble aeration	11.0	79.8	
Me - Ph- 95%Q1	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.012	135.6	134.4	bubble aeration	11.0	79.8	
Me - M- 95%Q1	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.012	135.6	134.4	bubble aeration	11.0	79.8	
Me - Meg- 95%Q1	Monoethyleneglycol	0.0	32.9	892.0	892.0	0.0	32.9	0.012	135.6	134.4	bubble aeration	11.0	79.8	
Me - B- 105%Q1	Benzene	0.0	29.4	0.6	0.6	0.0	29.4	0.013	122.7	120.7	bubble aeration	12.3	88.2	
Me - N- 105%Q1	Naphtalene	0.0	84.8	0.3	0.3	0.0	84.8	0.013	122.7	120.7	bubble aeration	12.3	88.2	
Me - Ph- 105%Q1	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.013	122.7	120.7	bubble aeration	12.3	88.2	
Me - M- 105%Q1	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.013	122.7	120.7	bubble aeration	12.3	88.2	
Me - Meg- 105%Q1	Monoethyleneglycol	0.0	33.2	901.2	901.2	0.0	33.2	0.013	122.7	120.7	bubble aeration	12.3	88.2	
Me - B- 95%[c]nflow	Benzene	0.0	27.1	0.6	0.6	0.0	27.1	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - N- 95%[c]nflow	Naphtalene	0.0	78.2	0.2	0.2	0.0	78.2	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Ph- 95%[c]nflow	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - M- 95%[c]nflow	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Meg- 95%[c]nflow	Monoethyleneglycol	0.0	31.4	852.0	852.0	0.0	31.4	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - B- 105%[c]nflow	Benzene	0.0	30.0	0.6	0.6	0.0	30.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - N- 105%[c]nflow	Naphtalene	0.0	86.5	0.3	0.3	0.0	86.5	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Ph- 105%[c]nflow	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - M- 105%[c]nflow	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Meg- 105%[c]nflow	Monoethyleneglycol	0.0	34.7	941.6	941.6	0.0	34.7	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - B- SLR(low)	Benzene	0.0	28.6	0.6	0.6	0.0	28.6	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - N- SLR(low)	Naphtalene	0.0	82.3	0.3	0.3	0.0	82.3	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Ph- SLR(low)	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - M- SLR(low)	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Meg- SLR(low)	Monoethyleneglycol	0.0	33.1	896.8	896.8	0.0	33.1	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - B- SLR(high)	Benzene	0.0	28.6	0.6	0.6	0.0	28.6	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - N- SLR(high)	Naphtalene	0.0	82.3	0.3	0.3	0.0	82.3	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Ph- SLR(high)	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - M- SLR(high)	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Meg- SLR(high)	Monoethyleneglycol	0.0	33.1	896.8	896.8	0.0	33.1	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - B- 95%[SS]	Benzene	0.0	28.6	0.6	0.6	0.0	28.6	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - N- 95%[SS]	Naphtalene	0.0	82.3	0.3	0.3	0.0	82.3	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Ph- 95%[SS]	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - M- 95%[SS]	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Meg- 95%[SS]	Monoethyleneglycol	0.0	33.1	896.8	896.8	0.0	33.1	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - B- 105%[SS]	Benzene	0.0	28.6	0.6	0.6	0.0	28.6	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - N- 105%[SS]	Naphtalene	0.0	82.3	0.3	0.3	0.0	82.3	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Ph- 105%[SS]	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - M- 105%[SS]	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Meg- 105%[SS]	Monoethyleneglycol	0.0	33.1	896.8	896.8	0.0	33.1	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - B- surfacebubble	Benzene	0.0	16.1	0.3	0.3	0.0	16.1	0.013	128.9	127.2	surface aeration	11.7	84.0	
Me - N- surfacebubble	Naphtalene	0.0	76.7	0.2	0.2	0.0	76.7	0.013	128.9	127.2	surface aeration	11.7	84.0	
Me - Ph- surfacebubble	Phenol	0.0	4.7	0.3	0.3	0.0	4.7	0.013	128.9	127.2	surface aeration	11.7	84.0	
Me - M- surfacebubble	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	surface aeration	11.7	84.0	
Me - Meg- surfacebubble	Monoethyleneglycol	0.0	33.1	896.8	896.8	0.0	33.1	0.013	128.9	127.2	surface aeration	11.7	84.0	
Phase 4: Biodegradation														
Me - B- 95%k biodeg	Benzene	0.0	29.0	0.6	0.6	0.0	29.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - N- 95%k biodeg	Naphtalene	0.0	83.4	0.3	0.3	0.0	83.4	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Ph- 95%k biodeg	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - M- 95%k biodeg	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Meg- 95%k biodeg	Monoethyleneglycol	0.0	33.2	901.4	901.4	0.0	33.2	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - B- 105%k biodeg	Benzene	0.0	28.1	0.6	0.6	0.0	28.1	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - N- 105%k biodeg	Naphtalene	0.0	81.3	0.3	0.2	0.0	81.3	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Ph- 105%k biodeg	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - M- 105%k biodeg	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Meg- 105%k biodeg	Monoethyleneglycol	0.0	32.9	892.2	892.2	0.0	32.9	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - B- 95%k biodeg T5	Benzene	0.0	36.2	0.8	0.8	0.0	36.2	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - N- 95%k biodeg T5	Naphtalene	0.0	100.1	0.3	0.3	0.0	100.1	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Ph- 95%k biodeg T5	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - M- 95%k biodeg T5	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Meg- 95%k biodeg T5	Monoethyleneglycol	0.0	35.5	962.5	962.5	0.0	35.5	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Phase 5: Size primaire sedimentation system														
Me - B - PSS	Benzene	0.0	28.6	0.6	0.6	0.0	28.6	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - N - PSS	Naphtalene	0.0	82.3	0.3	0.3	0.0	82.3	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Ph - PSS	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - M - PSS	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.013	128.9	127.2	bubble aeration	11.7	84.0	
Me - Meg - PSS	Monoethyleneglycol	0.0	33.1	896.8	896.8	0.0	33.1	0.013	128.9	127.2	bubble aeration	11.7	84.0	

Tab-identifier >	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input
		Characterisation of the chemical									Emission scenario			Sewage										Biodegradation			
Case Identifier	Name compound =	Molecular weight =	Kow =	Vapour pressure =	Solubility =	Ka =	Kb =	Henry constant (H) =	Kp (raw sewage) =	Kp (activated sludge) =	T air =	T water =	Windspeed =	Operating mode : M/I	Sewage flow daily total I =	C compound inflow I =	Volume aerator	Sludge loading rate (table 1) =	Bubble or surface aeration: b/s	Input solids in raw sewage =	C susp solids raw sewage =	Temperature dependence (y/n)	method 1: k biodeg1 =	method 2: k biodeg2 =	method 3: mmax =	Ks =
WWTP Kollsnes																										
Phase 1: Compound related											default = 15	default= 15	default = 3					default = 0.15 (medium)			*SS inflow*					
Ko - B - 95%MM	Benzene	74.2045	135	9999	1770			557.2875			15	15	3	I	120000	150	251	0.15	b	0.0001	*0.0005*	n	0.01125			
Ko - N - 95%MM	Naphtalene	121.7805	1950	12	31.7			46.6095			15	15	3	I	120000	0.61	251	0.15	b	0.0001	*0.0005*	n	0.00583333			
Ko - Ph - 95%MM	Phenol	89.40545	29	48	70000			3.04E+12			15	15	3	I	120000	6.3	251	0.15	b	0.0001	*0.0005*	n	0.00329167			
Ko - M - 95%MM	Mercury (Hg)	257.944	3	0	74000			6.00E-04			15	15	3	I	120000	0.0039	251	0.15	b	0.0001	*0.0005*	n	0			
Ko - Meg - 95%MM	Monoethyleneglycol	58.9665	0	8	100			0.0060795			15	15	3	I	120000	300	251	0.15	b	0.0001	*0.0005*	n	0.0008875			
Ko - B - 105%MM	Benzene	82.0155	135	9999	1770			557.2875			15	15	3	I	120000	150	251	0.15	b	0.0001	*0.0005*	n	0.01125			
Ko - N - 105%MM	Naphtalene	134.5995	1950	12	31.7			46.6095			15	15	3	I	120000	0.61	251	0.15	b	0.0001	*0.0005*	n	0.00583333			
Ko - Ph - 105%MM	Phenol	98.81655	29	48	70000			3.04E+12			15	15	3	I	120000	6.3	251	0.15	b	0.0001	*0.0005*	n	0.00329167			
Ko - M - 105%MM	Mercury (Hg)	285.096	3	0	74000			6.00E-04			15	15	3	I	120000	0.0039	251	0.15	b	0.0001	*0.0005*	n	0			
Ko - Meg - 105%MM	Monoethyleneglycol	65.1735	0	8	100			0.0060795			15	15	3	I	120000	300	251	0.15	b	0.0001	*0.0005*	n	0.0008875			
Ko - B - 95%Kow	Benzene	78.11	128	9999	1770			557.2875			15	15	3	I	120000	150	251	0.15	b	0.0001	*0.0005*	n	0.01125			
Ko - N - 95%Kow	Naphtalene	128.19	1852	12	31.7			46.6095			15	15	3	I	120000	0.61	251	0.15	b	0.0001	*0.0005*	n	0.00583333			
Ko - Ph - 95%Kow	Phenol	94.111	27	48	70000			3.04E+12			15	15	3	I	120000	6.3	251	0.15	b	0.0001	*0.0005*	n	0.00329167			
Ko - M - 95%Kow	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	120000	0.0039	251	0.15	b	0.0001	*0.0005*	n	0			
Ko - Meg - 95%Kow	Monoethyleneglycol	62.07	0	8	100			0.0060795			15	15	3	I	120000	300	251	0.15	b	0.0001	*0.0005*	n	0.0008875			
Ko - B - 105%Kow	Benzene	78.11	142	9999	1770			557.2875			15	15	3	I	120000	150	251	0.15	b	0.0001	*0.0005*	n	0.01125			
Ko - N - 105%Kow	Naphtalene	128.19	2047	12	31.7			46.6095			15	15	3	I	120000	0.61	251	0.15	b	0.0001	*0.0005*	n	0.00583333			
Ko - Ph - 105%Kow	Phenol	94.111	30	48	70000			3.04E+12			15	15	3	I	120000	6.3	251	0.15	b	0.0001	*0.0005*	n	0.00329167			
Ko - M - 105%Kow	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	120000	0.0039	251	0.15	b	0.0001	*0.0005*	n	0			
Ko - Meg - 105%Kow	Monoethyleneglycol	62.07	0	8	100			0.0060795			15	15	3	I	120000	300	251	0.15	b	0.0001	*0.0005*	n	0.0008875			
Ko - B - 95%Vp	Benzene	78.11	135	9499	1770			557.2875			15	15	3	I	120000	150	251	0.15	b	0.0001	*0.0005*	n	0.01125			
Ko - N - 95%Vp	Naphtalene	128.19	1950	11	31.7			46.6095			15	15	3	I	120000	0.61	251	0.15	b	0.0001	*0.0005*	n	0.00583333			
Ko - Ph - 95%Vp	Phenol	94.111	29	46	70000			3.04E+12			15	15	3	I	120000	6.3	251	0.15	b	0.0001	*0.0005*	n	0.00329167			
Ko - M - 95%Vp	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	120000	0.0039	251	0.15	b	0.0001	*0.0005*	n	0			
Ko - Meg - 95%Vp	Monoethyleneglycol	62.07	0	1	100			0.0060795			15	15	3	I	120000	300	251	0.15	b	0.0001	*0.0005*	n	0.0008875			
Ko - B - 105%Vp	Benzene	78.11	135	10499	1770			557.2875			15	15	3	I	120000	150	251	0.15	b	0.0001	*0.0005*	n	0.01125			
Ko - N - 105%Vp	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3	I	120000	0.61	251	0.15	b	0.0001	*0.0005*	n	0.00583333			
Ko - Ph - 105%Vp	Phenol	94.111	29	50	70000			3.04E+12			15	15	3	I	120000	6.3	251	0.15	b	0.0001	*0.0005*	n	0.00329167			
Ko - M - 105%Vp	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	120000	0.0039	251	0.15	b	0.0001	*0.0005*	n	0			
Ko - Meg - 105%Vp	Monoethyleneglycol	62.07	0	1	100			0.0060795			15	15	3	I	120000	300	251	0.15	b	0.0001	*0.0005*	n	0.0008875			
Ko - B - 95%Sol	Benzene	78.11	135	9999	1681.5			557.2875			15	15	3	I	120000	150	251	0.15	b	0.0001	*0.0005*	n	0.01125			
Ko - N - 95%Sol	Naphtalene	128.19	1950	12	30.115			46.6095			15	15	3	I	120000	0.61	251	0.15	b	0.0001	*0.0005*	n	0.00583333			
Ko - Ph - 95%Sol	Phenol	94.111	29	48	66500			3.04E+12			15	15	3	I	120000	6.3	251	0.15	b	0.0001	*0.0005*	n	0.00329167			
Ko - M - 95%Sol	Mercury (Hg)	271.52	3	0	70300			6.00E-04			15	15	3	I	120000	0.0039	251	0.15	b	0.0001	*0.0005*	n	0			
Ko - Meg - 95%Sol	Monoethyleneglycol	62.07	0	8	95			0.0060795			15	15	3	I	120000	300	251	0.15	b	0.0001	*0.0005*	n	0.0008875			
Ko - B - 105%Sol	Benzene	78.11	135	9999	1858.5			557.2875			15	15	3	I	120000	150	251	0.15	b	0.0001	*0.0005*	n	0.01125			
Ko - N - 105%Sol	Naphtalene	128.19	1950	12	33.285			46.6095			15	15	3	I	120000	0.61	251	0.15	b	0.0001	*0.0005*	n	0.00583333			
Ko - Ph - 105%Sol	Phenol	94.111	29	48	73500			3.04E+12			15	15	3	I	120000	6.3	251	0.15	b	0.0001	*0.0005*	n	0.00329167			
Ko - M - 105%Sol	Mercury (Hg)	271.52	3	0	77700			6.00E-04			15	15	3	I	120000	0.0039	251	0.15	b	0.0001	*0.0005*	n	0			
Ko - Meg - 105%Sol	Monoethyleneglycol	62.07	0	8	105			0.0060795			15	15	3	I	120000	300	251	0.15	b	0.0001	*0.0005*	n	0.0008875			
Ko - B - 95%Hc	Benzene	78.11	135	9999	1770			529.423125			15	15	3	I	120000	150	251	0.15	b	0.0001	*0.0005*	n	0.01125			
Ko - N - 95%Hc	Naphtalene	128.19	1950	12	31.7			44.279025			15	15	3	I	120000	0.61	251	0.15	b	0.0001	*0.0005*	n	0.00583333			
Ko - Ph - 95%Hc	Phenol	94.111	29	48	70000			2.89E+12			15	15	3	I	120000	6.3	251	0.15	b	0.0001	*0.0005*	n	0.00329167			
Ko - M - 95%Hc	Mercury (Hg)	271.52	3	0	74000			5.70E-04			15	15	3	I	120000	0.0039	251	0.15	b	0.0001	*0.0005*	n	0			
Ko - Meg - 95%Hc	Monoethyleneglycol	62.07	0	8	100			5.70E-04			15	15	3	I	120000	300	251	0.15	b	0.0001	*0.0005*	n	0.0008875			
Ko - B - 105%Hc	Benzene	78.11	135	9999	1770			585.151875			15	15	3	I	120000	150	251	0.15	b	0.0001	*0.0005*	n	0.01125			
Ko - N - 105%Hc	Naphtalene	128.19	1950	12	31.7			48.939975			15	15	3	I	120000	0.61	251	0.15	b	0.0001	*0.0005*	n	0.00583333			
Ko - Ph - 105%Hc	Phenol	94.111	29	48	70000			3.03E+12			15	15	3	I	120000	6.3	251	0.15	b	0.0001	*0.0005*	n	0.00329167			
Ko - M - 105%Hc	Mercury (Hg)	271.52	3	0	74000			5.99E-04			15	15	3	I	120000	0.0039	251	0.15	b	0.0001	*0.0005*	n	0			
Ko - Meg - 105%Hc	Monoethyleneglycol	62.07	0	8	100			6.30E-04			15	15	3	I	120000	300	251	0.15	b	0.0001	*0.0005*	n	0.0008875			

Tab-identifier >	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	output	output	output	output	output	output	output	output	output	output	output	output	output
									6-box								Elimination in the aerator			Elimination in the solids liquid separator			Total elimination from waste water	Total emission via effluent				Summary of distribution				
Case Identifier	Name compound =	Height air column =	Density solids raw sewage =	Fraction oc raw sewage =	BOD in raw sewage =	Depth aerator =	Oxygen concentration =	Aeration rate (1.31E-05) =	C activated sludge =	Fraction oc activated sludge =	Density solids activated sludge =	Depth SLS =	HRTSLS =	C susp solids SLS =	Fraction oc solids SLS =	Density solids SLS =	stripping	biodegradation	total	volatilization	via surplus sludge	total		% dissolved	% associated	balance	to air	to water	via surplus sludge	degraded	total
WWTP Kollsnes																															
Phase 1: Compound related																															
Ko - B - 95%MM	Benzene	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	54.2	16.5	70.7	2.7	0.1	2.8	73.5	26.5	26.5	0.0	100.0	56.9	26.5	0.1	16.5	100.0
Ko - N - 95%MM	Naphtalene	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	30.3	15.3	45.6	3.4	1.7	5.1	50.8	49.2	48.9	0.3	100.0	33.8	49.2	1.7	15.3	100.0
Ko - Ph - 95%MM	Phenol	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Ko - M - 95%MM	Mercury (Hg)	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Ko - Meg - 95%MM	Monoethyleneglycol	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	4.3	4.3	0.0	0.0	0.0	4.3	95.7	95.7	0.0	100.0	0.0	95.7	0.0	4.3	100.0
Ko - B - 105%MM	Benzene	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	54.2	16.5	70.7	2.7	0.1	2.8	73.5	26.5	26.5	0.0	100.0	56.9	26.5	0.1	16.5	100.0
Ko - N - 105%MM	Naphtalene	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	30.3	15.3	45.6	3.4	1.7	5.1	50.8	49.2	48.9	0.3	100.0	33.8	49.2	1.7	15.3	100.0
Ko - Ph - 105%MM	Phenol	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Ko - M - 105%MM	Mercury (Hg)	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Ko - Meg - 105%MM	Monoethyleneglycol	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	4.3	4.3	0.0	0.0	0.0	4.3	95.7	95.7	0.0	100.0	0.0	95.7	0.0	4.3	100.0
Ko - B - 95%Kow	Benzene	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	54.2	16.5	70.7	2.7	0.1	2.8	73.5	26.5	26.5	0.0	100.0	56.9	26.5	0.1	16.5	100.0
Ko - N - 95%Kow	Naphtalene	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	30.4	15.3	45.7	3.5	1.6	5.1	50.7	49.3	48.9	0.3	100.0	33.8	49.3	1.6	15.3	100.0
Ko - Ph - 95%Kow	Phenol	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Ko - M - 95%Kow	Mercury (Hg)	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Ko - Meg - 95%Kow	Monoethyleneglycol	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	4.3	4.3	0.0	0.0	0.0	4.3	95.7	95.7	0.0	100.0	0.0	95.7	0.0	4.3	100.0
Ko - B - 105%Kow	Benzene	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	54.2	16.5	70.7	2.7	0.1	2.8	73.5	26.5	26.5	0.0	100.0	56.9	26.5	0.1	16.5	100.0
Ko - N - 105%Kow	Naphtalene	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	30.3	15.3	45.6	3.4	1.8	5.2	50.8	49.2	48.9	0.3	100.0	33.8	49.2	1.8	15.3	100.0
Ko - Ph - 105%Kow	Phenol	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Ko - M - 105%Kow	Mercury (Hg)	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Ko - Meg - 105%Kow	Monoethyleneglycol	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	4.3	4.3	0.0	0.0	0.0	4.3	95.7	95.7	0.0	100.0	0.0	95.7	0.0	4.3	100.0
Ko - B - 95%Vp	Benzene	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	54.2	16.5	70.7	2.7	0.1	2.8	73.5	26.5	26.5	0.0	100.0	56.9	26.5	0.1	16.5	100.0
Ko - N - 95%Vp	Naphtalene	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	30.3	15.3	45.6	3.4	1.7	5.1	50.8	49.2	48.9	0.3	100.0	33.8	49.2	1.7	15.3	100.0
Ko - Ph - 95%Vp	Phenol	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Ko - M - 95%Vp	Mercury (Hg)	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Ko - Meg - 95%Vp	Monoethyleneglycol	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	4.3	4.3	0.0	0.0	0.0	4.3	95.7	95.7	0.0	100.0	0.0	95.7	0.0	4.3	100.0
Ko - B - 105%Vp	Benzene	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	54.2	16.5	70.7	2.7	0.1	2.8	73.5	26.5	26.5	0.0	100.0	56.9	26.5	0.1	16.5	100.0
Ko - N - 105%Vp	Naphtalene	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	30.3	15.3	45.6	3.4	1.7	5.1	50.8	49.2	48.9	0.3	100.0	33.8	49.2	1.7	15.3	100.0
Ko - Ph - 105%Vp	Phenol	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Ko - M - 105%Vp	Mercury (Hg)	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Ko - Meg - 105%Vp	Monoethyleneglycol	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	4.3	4.3	0.0	0.0	0.0	4.3	95.7	95.7	0.0	100.0	0.0	95.7	0.0	4.3	100.0
Ko - B - 95%Sol	Benzene	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	54.2	16.5	70.7	2.7	0.1	2.8	73.5	26.5	26.5	0.0	100.0	56.9	26.5	0.1	16.5	100.0
Ko - N - 95%Sol	Naphtalene	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	30.3	15.3	45.6	3.4	1.7	5.1	50.8	49.2	48.9	0.3	100.0	33.8	49.2	1.7	15.3	100.0
Ko - Ph - 95%Sol	Phenol	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Ko - M - 95%Sol	Mercury (Hg)	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Ko - Meg - 95%Sol	Monoethyleneglycol	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	4.3	4.3	0.0	0.0	0.0	4.3	95.7	95.7	0.0	100.0	0.0	95.7	0.0	4.3	100.0
Ko - B - 105%Sol	Benzene	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	54.2	16.5	70.7	2.7	0.1	2.8	73.5	26.5	26.5	0.0	100.0	56.9	26.5	0.1	16.5	100.0
Ko - N - 105%Sol	Naphtalene	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	30.3	15.3	45.6	3.4	1.7	5.1	50.8	49.2	48.9	0.3	100.0	33.8	49.2	1.7	15.3	100.0
Ko - Ph - 105%Sol	Phenol	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Ko - M - 105%Sol	Mercury (Hg)	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Ko - Meg - 105%Sol	Monoethyleneglycol	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	4.3	4.3	0.0	0.0	0.0	4.3	95.7	95.7	0.0	100.0	0.0	95.7	0.0	4.3	100.0
Ko - B - 95%Hc	Benzene	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	53.0	16.9	69.9	2.8	0.1	2.9	72.8	27.2	27.2	0.0	100.0	55.7	27.2	0.1	16.9	100.0
Ko - N - 95%Hc	Naphtalene	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	29.9	15.4	45.3	3.4	1.7	5.1	50.4	49.6	49.2	0.3	100.0	33.4	49.6	1.7	15.4	100.0
Ko - Ph - 95%Hc	Phenol	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Ko - M - 95%Hc	Mercury (Hg)	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Ko - Meg - 95%Hc	Monoethyleneglycol	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	4.3	4.3	0.0	0.0	0.0	4.3	95.7	95.7	0.0	100.0	0.0	95.7	0.0	4.3	100.0
Ko - B - 105%Hc	Benzene	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	55.4	16.0	71.5	2.6	0.1	2.7	74.2	25.8	25.8	0.0	100.0	58.1	25.8	0.1	16.0	100.0
Ko - N - 105%Hc	Naphtalene	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	30.7	15.2	45.9	3.5	1.7	5.2	51.1	48.9	48.6	0.3	100.0	34.2	48.9	1.7	15.2	100.0
Ko - Ph - 105%Hc	Phenol	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Ko - M - 105%Hc	Mercury (Hg)	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Ko - Meg - 105%Hc	Monoethyleneglycol	10	1.5	0.3	54	5.8	0.002	0.000013	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	4.3	4.3	0.0	0.0	0.0	4.3	95.7	95.7	0.0	100.0	0.0	95.7	0.0	4.3	100.0

Tab-identifier >	input	output	output	output	output	output	output	output		output	output	output	output	output
		Concentrations						Operation of the plant without primary settler						
Case Identifier	Name compound =	in air	in surplus sludge	in effluent (total)	dissolved	associated	in solids effluent	Sludge loading rate =	HRT =	SRT =	Aeration mode =	Surplus sludge =	Total wastewater =	
WWTP Kollsnes														
Phase 1: Compound related														
Ko - B - 95%MM	Benzene	0.0	1078.9	39.8	39.7	0.0	1078.9	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - N - 95%MM	Naphtalene	0.0	68.4	0.3	0.3	0.0	68.4	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - Ph - 95%MM	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - M - 95%MM	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - Meg - 95%MM	Monoethyleneglycol	0.0	10.6	287.1	287.1	0.0	10.6	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - B - 105%MM	Benzene	0.0	1078.9	39.8	39.7	0.0	1078.9	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - N - 105%MM	Naphtalene	0.0	68.4	0.3	0.3	0.0	68.4	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - Ph - 105%MM	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - M - 105%MM	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - Meg - 105%MM	Monoethyleneglycol	0.0	10.6	287.1	287.1	0.0	10.6	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - B - 95%Kow	Benzene	0.0	1035.1	39.8	39.7	0.0	1035.1	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - N - 95%Kaw	Naphtalene	0.0	65.7	0.3	0.3	0.0	65.7	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - Ph - 95%Kow	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - M - 95%Kow	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - Meg - 95%Kaw	Monoethyleneglycol	0.0	10.2	287.1	287.1	0.0	10.2	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - B - 105%Kow	Benzene	0.0	1122.3	39.8	39.7	0.0	1122.3	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - N - 105%Kow	Naphtalene	0.0	71.1	0.3	0.3	0.0	71.1	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - Ph - 105%Kaw	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - M - 105%Kow	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - Meg - 105%Kow	Monoethyleneglycol	0.0	11.0	287.1	287.1	0.0	11.0	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - B - 95%Vp	Benzene	0.0	1078.9	39.8	39.7	0.0	1078.9	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - N - 95%Vp	Naphtalene	0.0	68.4	0.3	0.3	0.0	68.4	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - Ph - 95%Vp	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - M - 95%Vp	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - Meg - 95%Vp	Monoethyleneglycol	0.0	10.6	287.1	287.1	0.0	10.6	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - B - 105%Vp	Benzene	0.0	1078.9	39.8	39.7	0.0	1078.9	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - N - 105%Vp	Naphtalene	0.0	68.4	0.3	0.3	0.0	68.4	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - Ph - 105%Vp	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - M - 105%Vp	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - Meg - 105%Vp	Monoethyleneglycol	0.0	10.6	287.1	287.1	0.0	10.6	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - B - 95%Sol	Benzene	0.0	1078.9	39.8	39.7	0.0	1078.9	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - N - 95%Sol	Naphtalene	0.0	68.4	0.3	0.3	0.0	68.4	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - Ph - 95%Sol	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - M - 95%Sol	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - Meg - 95%Sol	Monoethyleneglycol	0.0	10.6	287.1	287.1	0.0	10.6	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - B - 105%Sol	Benzene	0.0	1078.9	39.8	39.7	0.0	1078.9	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - N - 105%Sol	Naphtalene	0.0	68.4	0.3	0.3	0.0	68.4	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - Ph - 105%Sol	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - M - 105%Sol	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - Meg - 105%Sol	Monoethyleneglycol	0.0	10.6	287.1	287.1	0.0	10.6	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - B - 95%Hc	Benzene	0.0	1108.1	40.8	40.8	0.0	1108.1	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - N - 95%Hc	Naphtalene	0.0	68.8	0.3	0.3	0.0	68.8	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - Ph - 95%Hc	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - M - 95%Hc	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - Meg - 95%Hc	Monoethyleneglycol	0.0	10.6	287.2	287.2	0.0	10.6	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - B - 105%Hc	Benzene	0.0	1050.4	38.7	38.7	0.0	1050.4	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - N - 105%Hc	Naphtalene	0.0	68.0	0.3	0.3	0.0	68.0	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - Ph - 105%Hc	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - M - 105%Hc	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0	
Ko - Meg - 105%Hc	Monoethyleneglycol	0.0	10.6	287.2	287.2	0.0	10.6	0.032	50.2	46.4	bubble aeration	18.0	120.0	

Tab-identifier >	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input
		Characterisation of the chemical									Emission scenario			Sewage											Biodegradation			
Case Identifier	Name compound =	Molecular weight =	Kow =	Vapour pressure =	Solubility =	Ka =	Kb =	Henry constant (H) =	Kp (raw sewage) =	Kp (activated sludge) =	T air =	T water =	Windspeed =	Operating mode : M/I	Sewage flow daily total l =	C compound inflow l =	Volume aerator	Sludge loading rate (table 1) =	Bubble or surface aeration: b/s	Input solids in raw sewage =	C susp solids raw sewage =	Temperature dependence (y/n)	method 1: k biodeg1 =	method 2: k biodeg2 =	method 3: mmax =	Ks =
Phase 2a: Climate; temperature =n											default = 15	default= 15	default = 3					default = 0.15 (medium)				*SS inflow*				
Ko - B-T10air	Benzene	78.11	135	9999	1770			557.2875			10	15	3	I	120000	150	251	0.15	b	0.0001	*0.0005*	n	0.01125			
Ko - N-T10air	Naphtalene	128.19	1950	12	31.7			46.6095			10	15	3	I	120000	0.61	251	0.15	b	0.0001	*0.0005*	n	0.00583333			
Ko - Ph-T10air	Phenol	94.111	29	48	70000			3.04E+12			10	15	3	I	120000	6.3	251	0.15	b	0.0001	*0.0005*	n	0.00329167			
Ko - M-T10air	Mercury (Hg)	271.52	3	0	74000			6.00E-04			10	15	3	I	120000	0.0039	251	0.15	b	0.0001	*0.0005*	n	0			
Ko - Poe-T10air	Monoethyleneglycol	62.07	0	8	100			6.08E-03			10	15	3	I	120000	300	251	0.15	b	0.0001	*0.0005*	n	0.0008875			
Ko - B-T5air	Benzene	78.11	135	9999	1770			557.2875			5	15	3	I	120000	150	251	0.15	b	0.0001	*0.0005*	n	0.01125			
Ko - N-T5air	Naphtalene	128.19	1950	12	31.7			46.6095			5	15	3	I	120000	0.61	251	0.15	b	0.0001	*0.0005*	n	0.00583333			
Ko - Ph-T5air	Phenol	94.111	29	48	70000			3.04E+12			5	15	3	I	120000	6.3	251	0.15	b	0.0001	*0.0005*	n	0.00329167			
Ko - M-T5air	Mercury (Hg)	271.52	3	0	74000			6.00E-04			5	15	3	I	120000	0.0039	251	0.15	b	0.0001	*0.0005*	n	0			
Ko - Poe-T5air	Monoethyleneglycol	62.07	0	8	100			6.08E-03			5	15	3	I	120000	300	251	0.15	b	0.0001	*0.0005*	n	0.0008875			
Ko - B-T10water	Benzene	78.11	135	9999	1770			557.2875			15	10	3	I	120000	150	251	0.15	b	0.0001	*0.0005*	n	0.01125			
Ko - N-T10water	Naphtalene	128.19	1950	12	31.7			46.6095			15	10	3	I	120000	0.61	251	0.15	b	0.0001	*0.0005*	n	0.00583333			
Ko - Ph-T10water	Phenol	94.111	29	48	70000			3.04E+12			15	10	3	I	120000	6.3	251	0.15	b	0.0001	*0.0005*	n	0.00329167			
Ko - M-T10water	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	10	3	I	120000	0.0039	251	0.15	b	0.0001	*0.0005*	n	0			
Ko - Poe-T10water	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	10	3	I	120000	300	251	0.15	b	0.0001	*0.0005*	n	0.0008875			
Ko - B-T5water	Benzene	78.11	135	9999	1770			557.2875			15	5	3	I	120000	150	251	0.15	b	0.0001	*0.0005*	n	0.01125			
Ko - N-T5water	Naphtalene	128.19	1950	12	31.7			46.6095			15	5	3	I	120000	0.61	251	0.15	b	0.0001	*0.0005*	n	0.00583333			
Ko - Ph-T5water	Phenol	94.111	29	48	70000			3.04E+12			15	5	3	I	120000	6.3	251	0.15	b	0.0001	*0.0005*	n	0.00329167			
Ko - M-T5water	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	5	3	I	120000	0.0039	251	0.15	b	0.0001	*0.0005*	n	0			
Ko - Poe-T5water	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	5	3	I	120000	300	251	0.15	b	0.0001	*0.0005*	n	0.0008875			
Ko - B-wind6	Benzene	78.11	135	9999	1770			557.2875			15	15	6	I	120000	150	251	0.15	b	0.0001	*0.0005*	n	0.01125			
Ko - N-wind6	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	6	I	120000	0.61	251	0.15	b	0.0001	*0.0005*	n	0.00583333			
Ko - Ph-wind6	Phenol	94.111	29	48	70000			3.04E+12			15	15	6	I	120000	6.3	251	0.15	b	0.0001	*0.0005*	n	0.00329167			
Ko - M-wind6	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	6	I	120000	0.0039	251	0.15	b	0.0001	*0.0005*	n	0			
Ko - Poe-wind6	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	15	6	I	120000	300	251	0.15	b	0.0001	*0.0005*	n	0.0008875			
Ko - B-wind9	Benzene	78.11	135	9999	1770			557.2875			15	15	9	I	120000	150	251	0.15	b	0.0001	*0.0005*	n	0.01125			
Ko - N-wind9	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	9	I	120000	0.61	251	0.15	b	0.0001	*0.0005*	n	0.00583333			
Ko - Ph-wind9	Phenol	94.111	29	48	70000			3.04E+12			15	15	9	I	120000	6.3	251	0.15	b	0.0001	*0.0005*	n	0.00329167			
Ko - M-wind9	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	9	I	120000	0.0039	251	0.15	b	0.0001	*0.0005*	n	0			
Ko - Poe-wind9	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	15	9	I	120000	300	251	0.15	b	0.0001	*0.0005*	n	0.0008875			
Phase 2b: Climate; temperature =y											default = 15	default= 15	default = 3					default = 0.15 (medium)				*SS inflow*				
Ko - B-T10air	Benzene	78.11	135	9999	1770			557.2875			10	15	3	I	120000	150	251	0.15	b	0.0001	*0.0005*	n	0.01125			
Ko - N-T10air	Naphtalene	128.19	1950	12	31.7			46.6095			10	15	3	I	120000	0.61	251	0.15	b	0.0001	*0.0005*	n	0.00583333			
Ko - Ph-T10air	Phenol	94.111	29	48	70000			3.04E+12			10	15	3	I	120000	6.3	251	0.15	b	0.0001	*0.0005*	n	0.00329167			
Ko - M-T10air	Mercury (Hg)	271.52	3	0	74000			6.00E-04			10	15	3	I	120000	0.0039	251	0.15	b	0.0001	*0.0005*	n	0			
Ko - Poe-T10air	Monoethyleneglycol	62.07	0	8	100			6.08E-03			10	15	3	I	120000	300	251	0.15	b	0.0001	*0.0005*	n	0.0008875			
Ko - B-T5air	Benzene	78.11	135	9999	1770			557.2875			5	15	3	I	120000	150	251	0.15	b	0.0001	*0.0005*	n	0.01125			
Ko - N-T5air	Naphtalene	128.19	1950	12	31.7			46.6095			5	15	3	I	120000	0.61	251	0.15	b	0.0001	*0.0005*	n	0.00583333			
Ko - Ph-T5air	Phenol	94.111	29	48	70000			3.04E+12			5	15	3	I	120000	6.3	251	0.15	b	0.0001	*0.0005*	n	0.00329167			
Ko - M-T5air	Mercury (Hg)	271.52	3	0	74000			6.00E-04			5	15	3	I	120000	0.0039	251	0.15	b	0.0001	*0.0005*	n	0			
Ko - Poe-T5air	Monoethyleneglycol	62.07	0	8	100			6.08E-03			5	15	3	I	120000	300	251	0.15	b	0.0001	*0.0005*	n	0.0008875			
Ko - B-T10water	Benzene	78.11	135	9999	1770			557.2875			15	10	3	I	120000	150	251	0.15	b	0.0001	*0.0005*	n	0.01125			
Ko - N-T10water	Naphtalene	128.19	1950	12	31.7			46.6095			15	10	3	I	120000	0.61	251	0.15	b	0.0001	*0.0005*	n	0.00583333			
Ko - Ph-T10water	Phenol	94.111	29	48	70000			3.04E+12			15	10	3	I	120000	6.3	251	0.15	b	0.0001	*0.0005*	n	0.00329167			
Ko - M-T10water	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	10	3	I	120000	0.0039	251	0.15	b	0.0001	*0.0005*	n	0			
Ko - Poe-T10water	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	10	3	I	120000	300	251	0.15	b	0.0001	*0.0005*	n	0.0008875			
Ko - B-T5water	Benzene	78.11	135	9999	1770			557.2875			15	5	3	I	120000	150	251	0.15	b	0.0001	*0.0005*	n	0.01125			
Ko - N-T5water	Naphtalene	128.19	1950	12	31.7			46.6095			15	5	3	I	120000	0.61	251	0.15	b	0.0001	*0.0005*	n	0.00583333			
Ko - Ph-T5water	Phenol	94.111	29	48	70000			3.04E+12			15	5	3	I	120000	6.3	251	0.15	b	0.0001	*0.0005*	n	0.00329167			
Ko - M-T5water	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	5	3	I	120000	0.0039	251	0.15	b	0.0001	*0.0005*	n	0			
Ko - Poe-T5water	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	5	3	I	120000	300	251	0.15	b	0.0001	*0.0005*	n	0.0008875			
Ko - B-wind6	Benzene	78.11	135	9999	1770			557.2875			15	15	6	I	120000	150	251	0.15	b	0.0001	*0.0005*	n	0.01125			
Ko - N-wind6	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	6	I	120000	0.61	251	0.15	b	0.0001	*0.0005*	n	0.00583333			
Ko - Ph-wind6	Phenol	94.111	29	48	70000			3.04E+12			15	15	6	I	120000	6.3	251	0.15	b	0.0001	*0.0005*	n	0.00329167			
Ko - M-wind6	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	6	I	120000	0.0039	251	0.15	b	0.0001	*0.0005*	n	0			
Ko - Poe-wind6	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	15	6	I	120000	300	251	0.15	b	0.0001	*0.0005*	n	0.0008875			
Ko - B-wind9	Benzene	78.11	135	9999	1770			557.2875			15	15	9	I	120000	150	251	0.15	b	0.0001	*0.0005*	n	0.01125			
Ko - N-wind9	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	9	I	120000	0.61	251	0.15	b	0.0001	*0.0005*	n	0.00583333			
Ko - Ph-wind9	Phenol	94.111	29	48	70000			3.04E+12			15	15	9	I	120000	6.3	251	0.15	b	0.0001	*0.0005*	n	0.00329167			
Ko - M-wind9	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	9	I	120000	0.0039	251	0.15	b	0.0001	*0.0005*	n	0			
Ko - Poe-wind9	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	15	9	I	120000	300	251	0.15	b	0.0001	*0.0005*	n	0.0008875			

Tab-identifier >	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	output	output	output	output	output	output	output	output	output	output	output	output	output
									6-box								Elimination in the aerator			Elimination in the solids liquid separator			Total elimination from waste water	Total emission via effluent				Summary of distribution				
Case Identifier	Name compound =	Height air column =	Density solids raw sewage =	Fraction oc raw sewage =	BOD in raw sewage =	Depth aerator =	Oxygen concentration =	Aeration rate (1.31E-05) =	C activated sludge =	Fraction oc activated sludge =	Density solids activated sludge =	Depth SLS =	HRTSLS =	C susp solids SLS =	Fraction oc solids SLS =	Density solids SLS =	stripping	biodegradation	total	volatilization	via surplus sludge	total		% dissolved	% associated	balance	to air	to water	via surplus sludge	degraded	total
Phase 2a: Climate; temperature =n																															
Ko - B-T10air	Benzene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	54.4	16.4	70.8	2.7	0.1	2.8	73.6	26.4	26.4	0.0	100.0	57.1	26.4	0.1	16.4	100.0
Ko - N-T10air	Naphtalene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	30.5	15.3	45.7	3.5	1.7	5.1	50.9	49.1	48.8	0.3	100.0	33.9	49.1	1.7	15.3	100.0
Ko - Ph-T10air	Phenol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Ko - M-T10air	Mercury (Hg)	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Ko - Poe-T10air	Monoethyleneglycol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	4.3	4.3	0.0	0.0	0.0	4.3	95.7	95.7	0.0	100.0	0.0	95.7	0.0	4.3	100.0
Ko - B-T5air	Benzene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	54.6	16.3	70.9	2.7	0.1	2.8	73.7	26.3	26.3	0.0	100.0	57.3	26.3	0.1	16.3	100.0
Ko - N-T5air	Naphtalene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	30.6	15.2	45.8	3.5	1.7	5.2	51.0	49.0	48.7	0.3	100.0	34.1	49.0	1.7	15.2	100.0
Ko - Ph-T5air	Phenol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Ko - M-T5air	Mercury (Hg)	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Ko - Poe-T5air	Monoethyleneglycol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	4.3	4.3	0.0	0.0	0.0	4.3	95.7	95.7	0.0	100.0	0.0	95.7	0.0	4.3	100.0
Ko - B-T10water	Benzene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	54.2	16.5	70.7	2.7	0.1	2.8	73.5	26.5	26.5	0.0	100.0	56.9	26.5	0.1	16.5	100.0
Ko - N-T10water	Naphtalene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	30.3	15.3	45.6	3.4	1.7	5.1	50.8	49.2	48.9	0.3	100.0	33.8	49.2	1.7	15.3	100.0
Ko - Ph-T10water	Phenol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Ko - M-T10water	Mercury (Hg)	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Ko - Poe-T10water	Monoethyleneglycol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	4.3	4.3	0.0	0.0	0.0	4.3	95.7	95.7	0.0	100.0	0.0	95.7	0.0	4.3	100.0
Ko - B-T5water	Benzene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	54.2	16.5	70.7	2.7	0.1	2.8	73.5	26.5	26.5	0.0	100.0	56.9	26.5	0.1	16.5	100.0
Ko - N-T5water	Naphtalene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	30.3	15.3	45.6	3.4	1.7	5.1	50.8	49.2	48.9	0.3	100.0	33.8	49.2	1.7	15.3	100.0
Ko - Ph-T5water	Phenol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Ko - M-T5water	Mercury (Hg)	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Ko - Poe-T5water	Monoethyleneglycol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	4.3	4.3	0.0	0.0	0.0	4.3	95.7	95.7	0.0	100.0	0.0	95.7	0.0	4.3	100.0
Ko - B-wind6	Benzene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	54.2	16.5	70.7	2.7	0.1	2.8	73.5	26.5	26.5	0.0	100.0	56.9	26.5	0.1	16.5	100.0
Ko - N-wind6	Naphtalene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	30.3	15.3	45.6	3.4	1.7	5.1	50.8	49.2	48.9	0.3	100.0	33.8	49.2	1.7	15.3	100.0
Ko - Ph-wind6	Phenol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Ko - M-wind6	Mercury (Hg)	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Ko - Poe-wind6	Monoethyleneglycol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	4.3	4.3	0.0	0.0	0.0	4.3	95.7	95.7	0.0	100.0	0.0	95.7	0.0	4.3	100.0
Ko - B-wind9	Benzene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	54.2	16.5	70.7	2.7	0.1	2.8	73.5	26.5	26.5	0.0	100.0	56.9	26.5	0.1	16.5	100.0
Ko - N-wind9	Naphtalene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	30.3	15.3	45.6	3.4	1.7	5.1	50.8	49.2	48.9	0.3	100.0	33.8	49.2	1.7	15.3	100.0
Ko - Ph-wind9	Phenol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Ko - M-wind9	Mercury (Hg)	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Ko - Poe-wind9	Monoethyleneglycol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	4.3	4.3	0.0	0.0	0.0	4.3	95.7	95.7	0.0	100.0	0.0	95.7	0.0	4.3	100.0
Phase 2b: Climate; temperature =y																															
Ko - B-T10air	Benzene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	54.4	16.4	70.8	2.7	0.1	2.8	73.6	26.4	26.4	0.0	100.0	57.1	26.4	0.1	16.4	100.0
Ko - N-T10air	Naphtalene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	30.5	15.3	45.7	3.5	1.7	5.1	50.9	49.1	48.8	0.3	100.0	33.9	49.1	1.7	15.3	100.0
Ko - Ph-T10air	Phenol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Ko - M-T10air	Mercury (Hg)	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Ko - Poe-T10air	Monoethyleneglycol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	4.3	4.3	0.0	0.0	0.0	4.3	95.7	95.7	0.0	100.0	0.0	95.7	0.0	4.3	100.0
Ko - B-T5air	Benzene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	54.6	16.3	70.9	2.7	0.1	2.8	73.7	26.3	26.3	0.0	100.0	57.3	26.3	0.1	16.3	100.0
Ko - N-T5air	Naphtalene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	30.6	15.2	45.8	3.5	1.7	5.2	51.0	49.0	48.7	0.3	100.0	34.1	49.0	1.7	15.2	100.0
Ko - Ph-T5air	Phenol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Ko - M-T5air	Mercury (Hg)	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Ko - Poe-T5air	Monoethyleneglycol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	4.3	4.3	0.0	0.0	0.0	4.3	95.7	95.7	0.0	100.0	0.0	95.7	0.0	4.3	100.0
Ko - B-T10water	Benzene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	54.2	16.5	70.7	2.7	0.1	2.8	73.5	26.5	26.5	0.0	100.0	56.9	26.5	0.1	16.5	100.0
Ko - N-T10water	Naphtalene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	30.3	15.3	45.6	3.4	1.7	5.1	50.8	49.2	48.9	0.3	100.0	33.8	49.2	1.7	15.3	100.0
Ko - Ph-T10water	Phenol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Ko - M-T10water	Mercury (Hg)	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Ko - Poe-T10water	Monoethyleneglycol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	4.3	4.3	0.0	0.0	0.0	4.3	95.7	95.7	0.0	100.0	0.0	95.7	0.0	4.3	100.0
Ko - B-T5water	Benzene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	54.2	16.5	70.7	2.7	0.1	2.8	73.5	26.5	26.5	0.0	100.0	56.9	26.5	0.1	16.5	100.0
Ko - N-T5water	Naphtalene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	30.3	15.3	45.6	3.4	1.7	5.1	50.8	49.2	48.9	0.3	100.0	33.8	49.2	1.7	15.3	100.0
Ko - Ph-T5water	Phenol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Ko - M-T5water	Mercury (Hg)	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Ko - Poe-T5water	Monoethyleneglycol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	4.3	4.3	0.0	0.0	0.0	4.3	95.7	95.7	0.0	100.0	0.0	95.7	0.0	4.3	100.0
Ko - B-wind6	Benzene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	54.2	16.5	70.7	2.7	0.1	2.8	73.5	26.5	26.5	0.0	100.0	56.9	26.5	0.1	16.5	100.0
Ko - N-wind6	Naphtalene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	30.3	15.3	45.6	3.4	1.7	5.1	50.8	49.2	48.9	0.3	100.0	33.8	49.2	1.7	15.3	100.0
Ko - Ph-wind6	Phenol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Ko - M-wind6	Mercury (Hg)	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Ko - Poe-wind6	Monoethyleneglycol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	4.3	4.3	0.0	0.0	0.0	4.3	95.7	95.7	0.0	100.0	0.0	95.7	0.0	4.3	100.0
Ko - B-wind9	Benzene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	54.2	16.5	70.7	2.7	0.1	2.8	73.5	26.5	26.5	0.0	100.0	56.9	26.5	0.1	16.5	100.0
Ko - N-wind9	Naphtalene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	30.3	15.3	45.6	3.4	1.7	5.1	50.8	49.2	48.9	0.3	100.0	33.8	49.2	1.7	15.3	100.0
Ko - Ph-wind9	Phenol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Ko - M-wind9	Mercury (Hg)	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Ko - Poe-wind9	Monoethyleneglycol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	4.3	4.3	0.0	0.0	0.0	4.3	95.7	95.7	0.0	100.0	0.0	95.7	0.0	4.3	100.0

Tab-identifier >	input	output	output	output	output	output	output	output	output	output	output	output	output
		Concentrations						Operation of the plant without primary settler					
Case Identifier	Name compound =	in air	in surplus sludge	in effluent (total)	dissolved	associated	in solids effluent	Sludge loading rate =	HRT =	SRT =	Aeration mode =	Surplus sludge =	Total wastewater =
Phase 2a: Climate; temperature =n													
Ko - B-T10air	Benzene	0.0	1074.7	39.6	39.6	0.0	1074.7	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - N-T10air	Naphtalene	0.0	68.3	0.3	0.3	0.0	68.3	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Ph-T10air	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - M-T10air	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Poe-T10air	Monoethyleneglycol	0.0	10.6	287.1	287.1	0.0	10.6	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - B-T5air	Benzene	0.0	1070.4	39.4	39.4	0.0	1070.4	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - N-T5air	Naphtalene	0.0	68.2	0.3	0.3	0.0	68.2	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Ph-T5air	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - M-T5air	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Poe-T5air	Monoethyleneglycol	0.0	10.6	287.1	287.1	0.0	10.6	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - B-T10water	Benzene	0.0	1078.9	39.8	39.7	0.0	1078.9	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - N-T10water	Naphtalene	0.0	68.4	0.3	0.3	0.0	68.4	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Ph-T10water	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - M-T10water	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Poe-T10water	Monoethyleneglycol	0.0	10.6	287.1	287.1	0.0	10.6	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - B-T5water	Benzene	0.0	1078.9	39.8	39.7	0.0	1078.9	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - N-T5water	Naphtalene	0.0	68.4	0.3	0.3	0.0	68.4	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Ph-T5water	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - M-T5water	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Poe-T5water	Monoethyleneglycol	0.0	10.6	287.1	287.1	0.0	10.6	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - B-wind6	Benzene	0.0	1078.9	39.8	39.7	0.0	1078.9	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - N-wind6	Naphtalene	0.0	68.4	0.3	0.3	0.0	68.4	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Ph-wind6	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - M-wind6	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Poe-wind6	Monoethyleneglycol	0.0	10.6	287.1	287.1	0.0	10.6	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - B-wind9	Benzene	0.0	1078.9	39.7	39.7	0.0	1078.9	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - N-wind9	Naphtalene	0.0	68.4	0.3	0.3	0.0	68.4	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Ph-wind9	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - M-wind9	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Poe-wind9	Monoethyleneglycol	0.0	10.6	287.1	287.1	0.0	10.6	0.032	50.2	46.4	bubble aeration	18.0	120.0
Phase 2b: Climate; temperature =y													
Ko - B-T10air	Benzene	0.0	1074.7	39.6	39.6	0.0	1074.7	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - N-T10air	Naphtalene	0.0	68.3	0.3	0.3	0.0	68.3	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Ph-T10air	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - M-T10air	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Poe-T10air	Monoethyleneglycol	0.0	10.6	287.1	287.1	0.0	10.6	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - B-T5air	Benzene	0.0	1070.4	39.4	39.4	0.0	1070.4	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - N-T5air	Naphtalene	0.0	68.2	0.3	0.3	0.0	68.2	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Ph-T5air	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - M-T5air	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Poe-T5air	Monoethyleneglycol	0.0	10.6	287.1	287.1	0.0	10.6	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - B-T10water	Benzene	0.0	1078.9	39.8	39.7	0.0	1078.9	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - N-T10water	Naphtalene	0.0	68.4	0.3	0.3	0.0	68.4	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Ph-T10water	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - M-T10water	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Poe-T10water	Monoethyleneglycol	0.0	10.6	287.1	287.1	0.0	10.6	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - B-T5water	Benzene	0.0	1078.9	39.8	39.7	0.0	1078.9	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - N-T5water	Naphtalene	0.0	68.4	0.3	0.3	0.0	68.4	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Ph-T5water	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - M-T5water	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Poe-T5water	Monoethyleneglycol	0.0	10.6	287.1	287.1	0.0	10.6	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - B-wind6	Benzene	0.0	1078.9	39.8	39.7	0.0	1078.9	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - N-wind6	Naphtalene	0.0	68.4	0.3	0.3	0.0	68.4	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Ph-wind6	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - M-wind6	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Poe-wind6	Monoethyleneglycol	0.0	10.6	287.1	287.1	0.0	10.6	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - B-wind9	Benzene	0.0	1078.9	39.7	39.7	0.0	1078.9	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - N-wind9	Naphtalene	0.0	68.4	0.3	0.3	0.0	68.4	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Ph-wind9	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - M-wind9	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Poe-wind9	Monoethyleneglycol	0.0	10.6	287.1	287.1	0.0	10.6	0.032	50.2	46.4	bubble aeration	18.0	120.0

Tab-identifier >	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input
		Characterisation of the chemical									Emission scenario			Sewage											Biodegradation			
Case Identifier	Name compound =	Molecular weight =	Kow =	Vapour pressure =	Solubility =	Ka =	Kb =	Henry constant (H) =	Kp (raw sewage) =	Kp (activated sludge) =	T air =	T water =	Windspeed =	Operating mode : M/I	Sewage flow daily total l =	C compound inflow l =	Volume aerator	Sludge loading rate (table 1) =	Bubble or surface aeration: b/s	Input solids in raw sewage =	C susp solids raw sewage =	Temperature dependence (y/n)	method 1: k biodeg1 =	method 2: k biodeg2 =	method 3: mmax =	Ks =
Phase 3: Sewage											default = 15	default= 15	default = 3					default = 0.15 (medium)			*SS inflow*					
Ko - B- 95%Q1	Benzene	78.11	135	9999	1770			557.2875			15	15	3	I	114000	150	251	0.15	b	0.0001	*0.0005*	n	0.01125			
Ko - N- 95%Q1	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3	I	114000	0.61	251	0.15	b	0.0001	*0.0005*	n	0.00583333			
Ko - Ph- 95%Q1	Phenol	94.111	29	48	70000			3.04E+12			15	15	3	I	114000	6.3	251	0.15	b	0.0001	*0.0005*	n	0.00329167			
Ko - M- 95%Q1	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	114000	0.0039	251	0.15	b	0.0001	*0.0005*	n	0			
Ko - Meg- 95%Q1	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	15	3	I	114000	300	251	0.15	b	0.0001	*0.0005*	n	0.0008875			
Ko - B- 105%Q1	Benzene	78.11	135	9999	1770			557.2875			15	15	3	I	126000	150	251	0.15	b	0.0001	*0.0005*	n	0.01125			
Ko - N- 105%Q1	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3	I	126000	0.61	251	0.15	b	0.0001	*0.0005*	n	0.00583333			
Ko - Ph- 105%Q1	Phenol	94.111	29	48	70000			3.04E+12			15	15	3	I	126000	6.3	251	0.15	b	0.0001	*0.0005*	n	0.00329167			
Ko - M- 105%Q1	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	126000	0.0039	251	0.15	b	0.0001	*0.0005*	n	0			
Ko - Meg- 105%Q1	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	15	3	I	126000	300	251	0.15	b	0.0001	*0.0005*	n	0.0008875			
Ko - B- 95%[c]inflow	Benzene	78.11	135	9999	1770			557.2875			15	15	3	I	120000	142.5	251	0.15	b	0.0001	*0.0005*	n	0.01125			
Ko - N- 95%[c]inflow	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3	I	120000	0.5795	251	0.15	b	0.0001	*0.0005*	n	0.00583333			
Ko - Ph- 95%[c]inflow	Phenol	94.111	29	48	70000			3.04E+12			15	15	3	I	120000	5.985	251	0.15	b	0.0001	*0.0005*	n	0.00329167			
Ko - M- 95%[c]inflow	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	120000	0.003705	251	0.15	b	0.0001	*0.0005*	n	0			
Ko - Meg- 95%[c]inflow	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	15	3	I	120000	285	251	0.15	b	0.0001	*0.0005*	n	0.0008875			
Ko - B- 105%[c]inflow	Benzene	78.11	135	9999	1770			557.2875			15	15	3	I	120000	157.5	251	0.15	b	0.0001	*0.0005*	n	0.01125			
Ko - N- 105%[c]inflow	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3	I	120000	0.6405	251	0.15	b	0.0001	*0.0005*	n	0.00583333			
Ko - Ph- 105%[c]inflow	Phenol	94.111	29	48	70000			3.04E+12			15	15	3	I	120000	6.615	251	0.15	b	0.0001	*0.0005*	n	0.00329167			
Ko - M- 105%[c]inflow	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	120000	0.004095	251	0.15	b	0.0001	*0.0005*	n	0			
Ko - Meg- 105%[c]inflow	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	15	3	I	120000	315	251	0.15	b	0.0001	*0.0005*	n	0.0008875			
Ko - B- SLR(low)	Benzene	78.11	135	9999	1770			557.2875			15	15	3	I	120000	150	251	0.06	b	0.0001	*0.0005*	n	0.01125			
Ko - N- SLR(low)	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3	I	120000	0.61	251	0.06	b	0.0001	*0.0005*	n	0.00583333			
Ko - Ph- SLR(low)	Phenol	94.111	29	48	70000			3.04E+12			15	15	3	I	120000	6.3	251	0.06	b	0.0001	*0.0005*	n	0.00329167			
Ko - M- SLR(low)	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	120000	0.0039	251	0.06	b	0.0001	*0.0005*	n	0			
Ko - Meg- SLR(low)	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	15	3	I	120000	300	251	0.06	b	0.0001	*0.0005*	n	0.0008875			
Ko - B- SLR(high)	Benzene	78.11	135	9999	1770			557.2875			15	15	3	I	120000	150	251	0.3	b	0.0001	*0.0005*	n	0.01125			
Ko - N- SLR(high)	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3	I	120000	0.61	251	0.3	b	0.0001	*0.0005*	n	0.00583333			
Ko - Ph- SLR(high)	Phenol	94.111	29	48	70000			3.04E+12			15	15	3	I	120000	6.3	251	0.3	b	0.0001	*0.0005*	n	0.00329167			
Ko - M- SLR(high)	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	120000	0.0039	251	0.3	b	0.0001	*0.0005*	n	0			
Ko - Meg- SLR(high)	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	15	3	I	120000	300	251	0.3	b	0.0001	*0.0005*	n	0.0008875			
Ko - B- 99%[SS]	Benzene	78.11	135	9999	1770			557.2875			15	15	3	I	120000	150	251	0.15	b	0.000095	*0.000475*	n	0.01125			
Ko - N- 95%[SS]	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3	I	120000	0.61	251	0.15	b	0.000095	*0.000475*	n	0.00583333			
Ko - Ph- 95%[SS]	Phenol	94.111	29	48	70000			3.04E+12			15	15	3	I	120000	6.3	251	0.15	b	0.000095	*0.000475*	n	0.00329167			
Ko - M- 95%[SS]	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	120000	0.0039	251	0.15	b	0.000095	*0.000475*	n	0			
Ko - Meg- 95%[SS]	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	15	3	I	120000	300	251	0.15	b	0.000095	*0.000475*	n	0.0008875			
Ko - B- 105%[SS]	Benzene	78.11	135	9999	1770			557.2875			15	15	3	I	120000	150	251	0.15	b	0.000105	*0.000525*	n	0.01125			
Ko - N- 105%[SS]	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3	I	120000	0.61	251	0.15	b	0.000105	*0.000525*	n	0.00583333			
Ko - Ph- 105%[SS]	Phenol	94.111	29	48	70000			3.04E+12			15	15	3	I	120000	6.3	251	0.15	b	0.000105	*0.000525*	n	0.00329167			
Ko - M- 105%[SS]	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	120000	0.0039	251	0.15	b	0.000105	*0.000525*	n	0			
Ko - Meg- 105%[SS]	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	15	3	I	120000	300	251	0.15	b	0.000105	*0.000525*	n	0.0008875			
Ko - B- surfacebubble	Benzene	78.11	135	9999	1770			557.2875			15	15	3	I	120000	150	251	0.15	s	0.0001	*0.0005*	n	0.01125			
Ko - N- surfacebubble	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3	I	120000	0.61	251	0.15	s	0.0001	*0.0005*	n	0.00583333			
Ko - Ph- suifacebubble	Phenol	94.111	29	48	70000			3.04E+12			15	15	3	I	120000	6.3	251	0.15	s	0.0001	*0.0005*	n	0.00329167			
Ko - M- surfacebubble	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	120000	0.0039	251	0.15	s	0.0001	*0.0005*	n	0			
Ko - Meg- surfacebubble	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	15	3	I	120000	300	251	0.15	s	0.0001	*0.0005*	n	0.0008875			
Phase 4: Biodegradation											default = 15	default= 15	default = 3					default = 0.15 (medium)			*SS inflow*					
Ko - B- 95%k biodeg	Benzene	78.11	135	9999	1770			557.2875			15	15	3	I	120000	150	251	0.15	b	0.0001	*0.0005*	n	0.0106875			
Ko - N- 95%k biodeg	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3	I	120000	0.61	251	0.15	b	0.0001	*0.0005*	n	0.00554167			
Ko - Ph- 95%k biodeg	Phenol	94.111	29	48	70000			3.04E+12			15	15	3	I	120000	6.3	251	0.15	b	0.0001	*0.0005*	n	0.00312708			
Ko - M- 95%k biodeg	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	120000	0.0039	251	0.15	b	0.0001	*0.0005*	n	0			
Ko - Meg- 95%k biodeg	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	15	3	I	120000	300	251	0.15	b	0.0001	*0.0005*	n	0.00084313			
Ko - B- 105%k biodeg	Benzene	78.11	135	9999	1770			557.2875			15	15	3	I	120000	150	251	0.15	b	0.0001	*0.0005*	n	0.0118125			
Ko - N- 105%k biodeg	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3	I	120000	0.61	251	0.15	b	0.0001	*0.0005*	n	0.006125			
Ko - Ph- 105%k biodeg	Phenol	94.111	29	48	70000			3.04E+12			15	15	3	I	120000	6.3	251	0.15	b	0.0001	*0.0005*	n	0.00345625			
Ko - M- 105%k biodeg	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	120000	0.0039	251	0.15	b	0.0001	*0.0005*	n	0			
Ko - Meg- 105%k biodeg	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	15	3	I	120000	300	251	0.15	b	0.0001	*0.0005*	n	0.00093188			
Ko - B- 99%k biodeg T5	Benzene	78.11	135	9999	1770			557.2875			15	5	3	I	120000	150	251	0.15	b	0.0001	*0.0005*	y	0.0106875			
Ko - N- 95%k biodeg T5	Naphtalene	128.19	1950	12	31.7			46.6095			15	5	3	I	120000	0.61	251	0.15	b	0.0001	*0.0005*	y	0.00554167			
Ko - Ph- 95%k biodeg T5	Phenol	94.111	29	48	70000			3.04E+12			15	5	3	I	120000	6.3	251	0.15	b	0.0001	*0.0005*	y	0.00312708			
Ko - M- 95%k biodeg T5	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	5	3	I	120000	0.0039	251	0.15	b	0.0001	*0.0005*	y	0			
Ko - Meg- 95%k biodeg T5	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	5	3	I	120000	300	251	0.15	b	0.0001	*0.0005*	y	0.00084313			
Phase 5: Size primaire sedimentation system											default = 15	default= 15	default = 3					default = 0.15 (medium)			*SS inflow*					
Ko - B - PSS	Benzene	78.11	135	9999	1770			557.2875			15	15	3	I	120000	150	251	0.15	b	0.0001	*0.0005*	n	0.01125			
Ko - N - PSS	Naphtalene	128.19	1950	12	31.7			46.6095			15	15	3	I	120000	0.61	251	0.15	b	0.0001	*0.0005*	n	0.00583333			
Ko - Ph - PSS	Phenol	94.111	29	48	70000			3.04E+12			15	15	3	I	120000	6.3	251	0.15	b	0.0001	*0.0005*	n	0.00329167			
Ko - M - PSS	Mercury (Hg)	271.52	3	0	74000			6.00E-04			15	15	3	I	120000	0.0039	251	0.15	b	0.0001	*0.0005*	n	0			
Ko - Meg - PSS	Monoethyleneglycol	62.07	0	8	100			6.08E-03			15	15	3	I	120000	300	251	0.15	b	0.0001	*0.0005*	n	0.0008875			

Tab-identifier >	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	input	output	output	output	output	output	output	output	output	output	output	output	output	output
									6-box								Elimination in the aerator			Elimination in the solids liquid separator			Total elimination from waste water	Total emission via effluent				Summary of distribution				
Case Identifier	Name compound =	Height air column =	Density solids raw sewage =	Fraction oc raw sewage =	BOD in raw sewage =	Depth aerator =	Oxygen concentration =	Aeration rate (1.31E-05) =	C activated sludge =	Fraction oc activated sludge =	Density solids activated sludge =	Depth SLS =	HRTSLS =	C susp solids SLS =	Fraction oc solids SLS =	Density solids SLS =	stripping	biodegradation	total	volatilization	via surplus sludge	total		% dissolved	% associated	balance	to air	to water	via surplus sludge	degraded	total
Phase 3: Sewage																															
Ko - B- 95%Q1	Benzene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	54.3	17.0	71.3	2.7	0.1	2.8	74.1	25.9	25.9	0.0	100.0	57.0	25.9	0.1	17.0	100.0
Ko - N- 95%Q1	Naphtalene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	31.2	15.7	46.9	3.4	1.6	5.0	51.9	48.1	47.8	0.3	100.0	34.5	48.1	1.6	15.7	100.0
Ko - Ph- 95%Q1	Phenol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Ko - M- 95%Q1	Mercury (Hg)	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Ko - Meg- 95%Q1	Monoethyleneglycol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	4.5	4.5	0.0	0.0	0.0	4.5	95.5	95.5	0.0	100.0	0.0	95.5	0.0	4.5	100.0
Ko - B- 105%Q1	Benzene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	54.1	16.0	70.1	2.8	0.1	2.9	73.0	27.0	27.0	0.0	100.0	56.9	27.0	0.1	16.0	100.0
Ko - N- 105%Q1	Naphtalene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	29.6	14.9	44.4	3.5	1.7	5.3	49.7	50.3	50.0	0.3	100.0	33.1	50.3	1.7	14.9	100.0
Ko - Ph- 105%Q1	Phenol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Ko - M- 105%Q1	Mercury (Hg)	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Ko - Meg- 105%Q1	Monoethyleneglycol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	4.1	4.1	0.0	0.0	0.0	4.1	95.9	95.9	0.0	100.0	0.0	95.9	0.0	4.1	100.0
Ko - B- 99%[c]inflow	Benzene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	54.2	16.5	70.7	2.7	0.1	2.8	73.5	26.5	26.5	0.0	100.0	56.9	26.5	0.1	16.5	100.0
Ko - N- 95%[c]inflow	Naphtalene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	30.3	15.3	45.6	3.4	1.7	5.1	50.8	49.2	48.9	0.3	100.0	33.8	49.2	1.7	15.3	100.0
Ko - Ph- 95%[c]inflow	Phenol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Ko - M- 95%[c]inflow	Mercury (Hg)	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Ko - Meg- 95%[c]inflow	Monoethyleneglycol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	4.3	4.3	0.0	0.0	0.0	4.3	95.7	95.7	0.0	100.0	0.0	95.7	0.0	4.3	100.0
Ko - B- 105%[c]inflow	Benzene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	54.2	16.5	70.7	2.7	0.1	2.8	73.5	26.5	26.5	0.0	100.0	56.9	26.5	0.1	16.5	100.0
Ko - N- 105%[c]inflow	Naphtalene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	30.3	15.3	45.6	3.4	1.7	5.1	50.8	49.2	48.9	0.3	100.0	33.8	49.2	1.7	15.3	100.0
Ko - Ph- 105%[c]inflow	Phenol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Ko - M- 105%[c]inflow	Mercury (Hg)	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Ko - Meg- 105%[c]inflow	Monoethyleneglycol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	4.3	4.3	0.0	0.0	0.0	4.3	95.7	95.7	0.0	100.0	0.0	95.7	0.0	4.3	100.0
Ko - B- SLR(low)	Benzene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	54.2	16.5	70.7	2.7	0.1	2.8	73.5	26.5	26.5	0.0	100.0	56.9	26.5	0.1	16.5	100.0
Ko - N- SLR(low)	Naphtalene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	30.3	15.3	45.6	3.4	1.7	5.1	50.8	49.2	48.9	0.3	100.0	33.8	49.2	1.7	15.3	100.0
Ko - Ph- SLR(low)	Phenol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Ko - M- SLR(low)	Mercury (Hg)	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Ko - Meg- SLR(low)	Monoethyleneglycol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	4.3	4.3	0.0	0.0	0.0	4.3	95.7	95.7	0.0	100.0	0.0	95.7	0.0	4.3	100.0
Ko - B- SLR(high)	Benzene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	54.2	16.5	70.7	2.7	0.1	2.8	73.5	26.5	26.5	0.0	100.0	56.9	26.5	0.1	16.5	100.0
Ko - N- SLR(high)	Naphtalene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	30.3	15.3	45.6	3.4	1.7	5.1	50.8	49.2	48.9	0.3	100.0	33.8	49.2	1.7	15.3	100.0
Ko - Ph- SLR(high)	Phenol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Ko - M- SLR(high)	Mercury (Hg)	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Ko - Meg- SLR(high)	Monoethyleneglycol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	4.3	4.3	0.0	0.0	0.0	4.3	95.7	95.7	0.0	100.0	0.0	95.7	0.0	4.3	100.0
Ko - B- 99%[SS]	Benzene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	54.2	16.5	70.7	2.7	0.1	2.8	73.5	26.5	26.5	0.0	100.0	56.9	26.5	0.1	16.5	100.0
Ko - N- 95%[SS]	Naphtalene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	30.3	15.3	45.6	3.4	1.7	5.1	50.8	49.2	48.9	0.3	100.0	33.8	49.2	1.7	15.3	100.0
Ko - Ph- 95%[SS]	Phenol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Ko - M- 95%[SS]	Mercury (Hg)	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Ko - Meg- 95%[SS]	Monoethyleneglycol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	4.3	4.3	0.0	0.0	0.0	4.3	95.7	95.7	0.0	100.0	0.0	95.7	0.0	4.3	100.0
Ko - B- 105%[SS]	Benzene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	54.2	16.5	70.7	2.7	0.1	2.8	73.5	26.5	26.5	0.0	100.0	56.9	26.5	0.1	16.5	100.0
Ko - N- 105%[SS]	Naphtalene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	30.3	15.3	45.6	3.4	1.7	5.1	50.8	49.2	48.9	0.3	100.0	33.8	49.2	1.7	15.3	100.0
Ko - Ph- 105%[SS]	Phenol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Ko - M- 105%[SS]	Mercury (Hg)	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Ko - Meg- 105%[SS]	Monoethyleneglycol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	4.3	4.3	0.0	0.0	0.0	4.3	95.7	95.7	0.0	100.0	0.0	95.7	0.0	4.3	100.0
Ko - B- surfacebubble	Benzene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	81.3	6.7	88.0	1.1	0.0	1.2	89.2	10.8	10.8	0.0	100.0	82.4	10.8	0.0	6.7	100.0
Ko - N- surfacebubble	Naphtalene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	40.3	13.1	53.4	3.0	1.4	4.4	57.8	42.2	41.9	0.3	100.0	43.3	42.2	1.4	13.1	100.0
Ko - Ph- surfacebubble	Phenol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	95.4	0.7	96.0	0.4	0.0	0.4	96.4	3.6	3.6	0.0	100.0	95.7	3.6	0.0	0.7	100.0
Ko - M- surfacebubble	Mercury (Hg)	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Ko - Meg- surfacebubble	Monoethyleneglycol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	4.3	4.3	0.0	0.0	0.0	4.3	95.7	95.7	0.0	100.0	0.0	95.7	0.0	4.3	100.0
Phase 4: Biodegradation																															
Ko - B- 95%k biodeg	Benzene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	54.7	15.8	70.4	2.7	0.1	2.8	73.3	26.7	26.7	0.0	100.0	57.4	26.7	0.1	15.8	100.0
Ko - N- 95%k biodeg	Naphtalene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	30.6	14.6	45.2	3.5	1.7	5.2	50.4	49.6	49.3	0.3	100.0	34.0	49.6	1.7	14.6	100.0
Ko - Ph- 95%k biodeg	Phenol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Ko - M- 95%k biodeg	Mercury (Hg)	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Ko - Meg- 95%k biodeg	Monoethyleneglycol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	4.1	4.1	0.0	0.0	0.0	4.1	95.9	95.9	0.0	100.0	0.0	95.9	0.0	4.1	100.0
Ko - B- 105%k biodeg	Benzene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	53.8	17.2	70.9	2.7	0.1	2.8	73.7	26.3	26.3	0.0	100.0	56.4	26.3	0.1	17.2	100.0
Ko - N- 105%k biodeg	Naphtalene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	30.1	15.9	46.0	3.4	1.7	5.1	51.1	48.9	48.5	0.3	100.0	33.5	48.9	1.7	15.9	100.0
Ko - Ph- 105%k biodeg	Phenol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Ko - M- 105%k biodeg	Mercury (Hg)	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Ko - Meg- 105%k biodeg	Monoethyleneglycol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	4.5	4.5	0.0	0.0	0.0	4.5	95.5	95.5	0.0	100.0	0.0	95.5	0.0	4.5	100.0
Ko - B- 99%k biodeg T5	Benzene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	60.9	6.2	67.1	3.0	0.1	3.2	70.2	29.8	29.7	0.0	100.0	63.9	29.8	0.1	6.2	100.0
Ko - N- 95%k biodeg T5	Naphtalene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	33.8	5.7	39.5	3.8	1.9	5.7	45.2	54.8	54.4	0.4	100.0	37.6	54.8	1.9	5.7	100.0
Ko - Ph- 95%k biodeg T5	Phenol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Ko - M- 95%k biodeg T5	Mercury (Hg)	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Ko - Meg- 95%k biodeg T5	Monoethyleneglycol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	1.5	1.5	0.0	0.0	0.0	1.5	98.5	98.5	0.0	100.0	0.0	98.5	0.0	1.5	100.0
Phase 5: Size primaire sedimentation system																															
Ko - B - PSS	Benzene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	54.2	16.5	70.7	2.7	0.1	2.8	73.5	26.5	26.5	0.0	100.0	56.9	26.5	0.1	16.5	100.0
Ko - N - PSS	Naphtalene	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	30.3	15.3	45.6	3.4	1.7	5.1	50.8	49.2	48.9	0.3	100.0	33.8	49.2	1.7	15.3	100.0
Ko - Ph - PSS	Phenol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
Ko - M - PSS	Mercury (Hg)	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0
Ko - Meg - PSS	Monoethyleneglycol	10	1.5	0.3	54	5.8	0.002	1.30E-05	4	0.37	1.3	7.5	8	0.03	0.37	1.3	0.0	4.3	4.3	0.0	0.0	0.0	4.3	95.7	95.7	0.0	100.0	0.0	95.7	0.0	4.3	100.0

Tab-identifier >	input	output	output	output	output	output	output	output	output	output	output	output	output
		Concentrations						Operation of the plant without primary settler					
Case Identifier	Name compound =	in air	in surplus sludge	in effluent (total)	dissolved	associated	in solids effluent	Sludge loading rate =	HRT =	SRT =	Aeration mode =	Surplus sludge =	Total wastewater =
Phase 3: Sewage													
Ko - B- 95%Q1	Benzene	0.0	1056.3	38.9	38.9	0.0	1056.3	0.031	52.8	49.0	bubble aeration	17.1	114.0
Ko - N- 95%Q1	Naphtalene	0.0	66.8	0.3	0.3	0.0	66.8	0.031	52.8	49.0	bubble aeration	17.1	114.0
Ko - Ph- 95%Q1	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.031	52.8	49.0	bubble aeration	17.1	114.0
Ko - M- 95%Q1	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.031	52.8	49.0	bubble aeration	17.1	114.0
Ko - Meg- 95%Q1	Monoethyleneglycol	0.0	10.6	286.5	286.5	0.0	10.6	0.031	52.8	49.0	bubble aeration	17.1	114.0
Ko - B- 105%Q1	Benzene	0.0	1100.2	40.5	40.5	0.0	1100.2	0.034	47.8	44.1	bubble aeration	19.0	126.0
Ko - N- 105%Q1	Naphtalene	0.0	69.9	0.3	0.3	0.0	69.9	0.034	47.8	44.1	bubble aeration	19.0	126.0
Ko - Ph- 105%Q1	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.034	47.8	44.1	bubble aeration	19.0	126.0
Ko - M- 105%Q1	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.034	47.8	44.1	bubble aeration	19.0	126.0
Ko - Meg- 105%Q1	Monoethyleneglycol	0.0	10.6	287.7	287.7	0.0	10.6	0.034	47.8	44.1	bubble aeration	19.0	126.0
Ko - B- 95%[c]inflow	Benzene	0.0	1025.0	37.8	37.7	0.0	1025.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - N- 95%[c]inflow	Naphtalene	0.0	65.0	0.3	0.3	0.0	65.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Ph- 95%[c]inflow	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - M- 95%[c]inflow	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Meg- 95%[c]inflow	Monoethyleneglycol	0.0	10.1	272.8	272.8	0.0	10.1	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - B- 105%[c]inflow	Benzene	0.0	1132.9	41.7	41.7	0.0	1132.9	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - N- 105%[c]inflow	Naphtalene	0.0	71.8	0.3	0.3	0.0	71.8	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Ph- 105%[c]inflow	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - M- 105%[c]inflow	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Meg- 105%[c]inflow	Monoethyleneglycol	0.0	11.1	301.5	301.5	0.0	11.1	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - B- SLR(low)	Benzene	0.0	1078.9	39.8	39.7	0.0	1078.9	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - N- SLR(low)	Naphtalene	0.0	68.4	0.3	0.3	0.0	68.4	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Ph- SLR(low)	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - M- SLR(low)	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Meg- SLR(low)	Monoethyleneglycol	0.0	10.6	287.1	287.1	0.0	10.6	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - B- SLR(high)	Benzene	0.0	1078.9	39.8	39.7	0.0	1078.9	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - N- SLR(high)	Naphtalene	0.0	68.4	0.3	0.3	0.0	68.4	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Ph- SLR(high)	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - M- SLR(high)	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Meg- SLR(high)	Monoethyleneglycol	0.0	10.6	287.1	287.1	0.0	10.6	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - B- 95%[SS]	Benzene	0.0	1078.9	39.8	39.7	0.0	1078.9	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - N- 95%[SS]	Naphtalene	0.0	68.4	0.3	0.3	0.0	68.4	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Ph- 95%[SS]	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - M- 95%[SS]	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Meg- 95%[SS]	Monoethyleneglycol	0.0	10.6	287.1	287.1	0.0	10.6	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - B- 105%[SS]	Benzene	0.0	1078.9	39.8	39.7	0.0	1078.9	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - N- 105%[SS]	Naphtalene	0.0	68.4	0.3	0.3	0.0	68.4	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Ph- 105%[SS]	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - M- 105%[SS]	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Meg- 105%[SS]	Monoethyleneglycol	0.0	10.6	287.1	287.1	0.0	10.6	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - B- surfacebubble	Benzene	0.0	441.1	16.3	16.2	0.0	441.1	0.032	50.2	46.4	surface aeration	18.0	120.0
Ko - N- surfacebubble	Naphtalene	0.0	58.6	0.3	0.3	0.0	58.6	0.032	50.2	46.4	surface aeration	18.0	120.0
Ko - Ph- surfacebubble	Phenol	0.0	1.8	0.2	0.2	0.0	1.8	0.032	50.2	46.4	surface aeration	18.0	120.0
Ko - M- surfacebubble	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	surface aeration	18.0	120.0
Ko - Meg- surfacebubble	Monoethyleneglycol	0.0	10.6	287.1	287.1	0.0	10.6	0.032	50.2	46.4	surface aeration	18.0	120.0
Phase 4: Biodegradation													
Ko - B- 95%k biodeg	Benzene	0.0	1087.9	40.1	40.0	0.0	1087.9	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - N- 95%k biodeg	Naphtalene	0.0	68.9	0.3	0.3	0.0	68.9	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Ph- 95%k biodeg	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - M- 95%k biodeg	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Meg- 95%k biodeg	Monoethyleneglycol	0.0	10.6	287.7	287.7	0.0	10.6	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - B- 105%k biodeg	Benzene	0.0	1070.1	39.4	39.4	0.0	1070.1	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - N- 105%k biodeg	Naphtalene	0.0	67.9	0.3	0.3	0.0	67.9	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Ph- 105%k biodeg	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - M- 105%k biodeg	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Meg- 105%k biodeg	Monoethyleneglycol	0.0	10.6	286.5	286.5	0.0	10.6	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - B- 95%k biodeg T5	Benzene	0.0	1211.7	44.6	44.6	0.0	1211.7	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - N- 95%k biodeg T5	Naphtalene	0.0	76.2	0.3	0.3	0.0	76.2	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Ph- 95%k biodeg T5	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - M- 95%k biodeg T5	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Meg- 95%k biodeg T5	Monoethyleneglycol	0.0	10.9	295.5	295.5	0.0	10.9	0.032	50.2	46.4	bubble aeration	18.0	120.0
Phase 5: Size primaire sedimentation system													
Ko - B - PSS	Benzene	0.0	1078.9	39.8	39.7	0.0	1078.9	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - N - PSS	Naphtalene	0.0	68.4	0.3	0.3	0.0	68.4	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Ph - PSS	Phenol	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - M - PSS	Mercury (Hg)	0.0	0.0	0.0	0.0	0.0	0.0	0.032	50.2	46.4	bubble aeration	18.0	120.0
Ko - Meg - PSS	Monoethyleneglycol	0.0	10.6	287.1	287.1	0.0	10.6	0.032	50.2	46.4	bubble aeration	18.0	120.0

Annex B: SimpleTreat.i (v. 3.3, 15 May 09), Using the Batch-tab

Number of pages: 1

A new addition has been made to the SimpleTreat-spreadsheet to assist in the use of the model during the sensitivity analysis. This new functionality can also be put to good use when assessing the performance of a WWTP for a set of compounds and/or different operating conditions.
The file with this new functionality is called: ST33i_unprotected_batch_run.xls.
It is located on a tab called 'batch'.

A view of the top-right corner of this new tab 'batch' is given in Figure 1.

Start row	11	Run Batch	Clear output
End row	14		
Current row	14		

Tab-identifier >	**input**	**input**	**input**
Unit >	(-)	g mol-1	(-)
Case Identifier	Name compound =	Molecular weight =	Kow =
base	Imidozaline	70.093	3.02E-01
high	Imidozaline	70.093	3.02E-01
low	Imidozaline	70.093	3.02E-01
choose your own	Imidozaline	70.093	3.02E-01

Figure 1 View of the 'batch'-functionality

A 'Start row' and 'End row' can be specified for the underlying macro's to operate on. By specifying these the user can control which cases, are to be calculated.
For the macro to return sensible results the used should start by specifying all inputs. In the 'batch'-tab these can be identified by the Tab-identifier in row 7. Please note that some inputs may also be required on the '9-box'- and '6-box'-tabs, when other values than the defaults are to used in the calculations.
At the beginning of each row a 'Case Identifier' is available.

Once all the cases have been defined, the "**Run Batch**"-button will start a macro that will start to process all rows in the range specified by 'Start row' and 'End row'. 'Current row' can be used as a progress meter. For each case the macro will copy the specified inputs to the tabs 'input', '9-box' and '6-box', run the model and copy the results to the output range on the 'batch'-tab. All data is then available for analysis and evaluation.

The "**Clear output**"-button will clear all previously calculated results from the results-range to the right of the input-range. This button also runs a macro that processes the cases as defined by 'Start row' and 'End row'.

Calculating only new cases or only a subset of cases that have been modified can be achieved by appropriately adjusting the 'Start row' and 'End row'.