

2501-330652-04-02-589547

2500

.....	1
.....	24
.....	42
.....	51
.....	

6 MSDS

7

8

	2500					
	2501-330652-04-02-589547					
				18888739867		
	56			7		
	120	37	31.717	30	5	13.065
	C3982			398		
/			/	2501-330652-04-02-589547		
	4034.71			90		
%	2.2			3		
			m ²	4260		
	1.1-1					
	[a]			[a]		
	500					

UNIVERSITY OF TORONTO

2020

2021-2030

2030

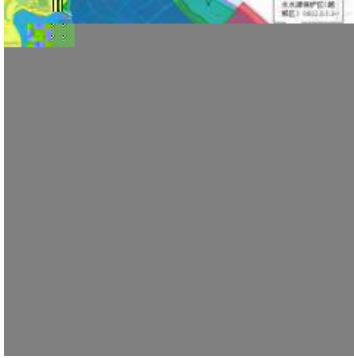
1253

UNIVERSITY OF TORONTO

UNIVERSITY OF TORONTO

	2				
		"		"	
	"	"	66.2		
	"	"	329		
	"	"			" "
	"	"			
		"			"
	2				
		1"	"	329	
	"			0602- -0-4"	
					1.1-2

1.1-2

	329	0602- -0-4		

2"

"

56

3"

"

4"

"

5"

"

1.1-3

1.1-3

0602-
-0-4”

DMF

VOCs >420g/L

3

56

[2024]36

ZH33060220001

1.1-4

1.1-4

		2024	
		2025	
		C3982 [2024]36	
		1	
		56 7	

		ZH33060220001	

4

56

7

5

" "

1.1-6

" "

1)	<p>VOCs</p> <p>VOCs</p> <p>(</p> <p>VOCs</p> <p>VOCs</p>	<p>ZH33060220001</p> <p>GB/T</p> <p>38597-2020</p> <p>GB 33372-2020</p> <p>GB38508-2020</p> <p>2.2.4-2</p> <p>VOCs</p>
2	()	“ ”	()

VOCs

1.1-4

VOCs
1 2

VOCs

VOCs

2

3

VOCs

2025 5000
(3)
70%
60%

VOCs
VOCs
VOCs

VOCs
60%

“ ”

“ ”

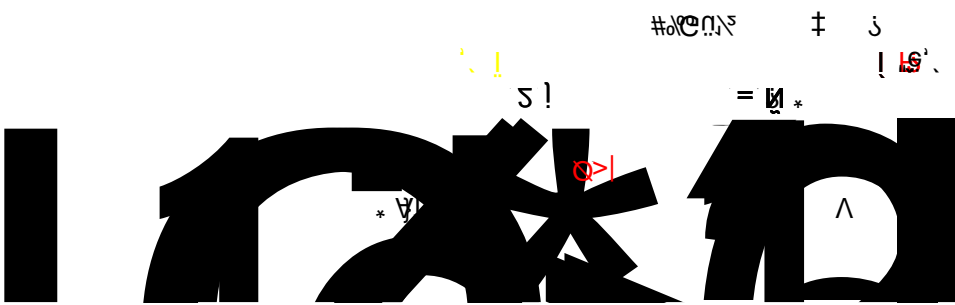
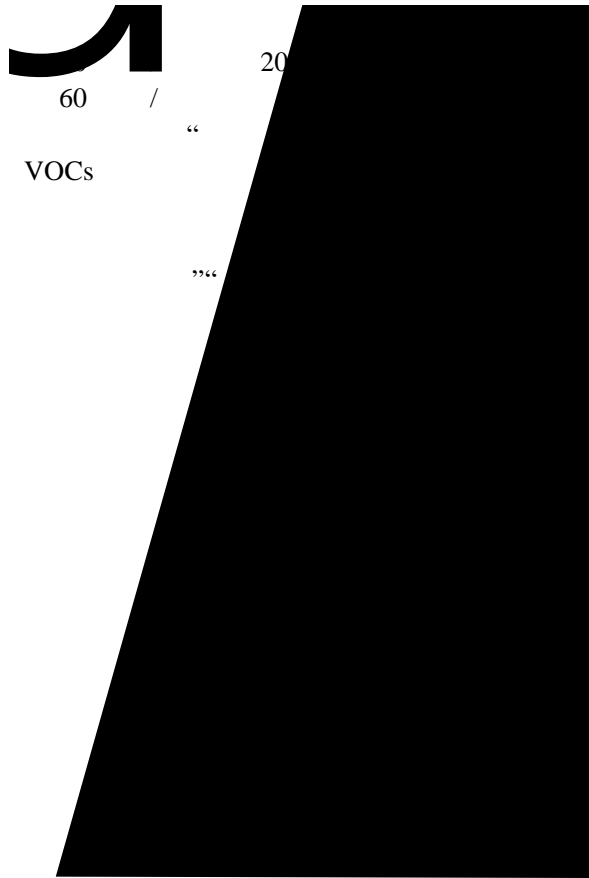
10

VOCs
VOCs

VOCs

HJ 944
VOCs

VOCs



		“ ”	
6		<p>2023</p> <p>“ ” 2025 6</p> <p>2022 12</p> <p>35 /</p> <p>“ ”</p> <p>()</p> <p>A</p>	
7		<p>B</p> <p>A B</p>	
8		<p>VOCs</p> <p>2023 8</p> <p>VOCs 2025</p> <p>VOCs</p> <p>2023 3</p> <p>“ ”</p> <p>2023 8</p>	VOCs

		2025	
8			(2020)
			3.5
9			(2022)
1.1-9			(2022)
1			
2			

()

56

3

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ZH33060220001

56

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56

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			“ ”	
11		2023		2023
12			([2024]11)	
	1.1-11		()	
		2024		
		(SCR) 2025 6 2024 ,2027		
	VOCs	VOCs		
	VOCs		GB/T 38597-2020 GB 33372-2020 GB38508-2020	
		VOCs		



		1	420m ²	1	
		1617m ²	1	108m ²	
		38.5m ²	22m ²	36m ²	
			/UV		
			"	"	
		DA001			
		30 m ²	1	30m ²	1

2.2.1-2

			m ²
1			765
2			1742
3		DIP)	1390
4		SMT)	1430

2.2.2

2.2.2-1

2.2.2-1

	(/)	(/)	(/)	
	200	2500	+2300	
	200	2500	+2300	0.15m*0.15 m

SMT

200 /

2500 /

/UV

2.2.2-2

/

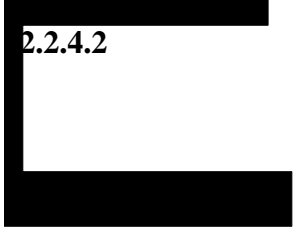
750

300

450

	<p data-bbox="491 248 587 282">2.2.4-1</p> <p data-bbox="1034 376 1104 409">SMT</p> <p data-bbox="325 562 352 595">A</p>
--	--

2.2.4.2



MSDS

VOC



VOCs

VOC

10%



MSDS

2.2.4-3

2.2.4-3

	0	32		/	LD ₅₀
° F			18255.6 mg/kg	4g/kg	LD ₅₀
				2.5g/kg	

1.20 ± 10% g/cm³
0-10

25 2.0 pH
7.5

	0.81 ± 0.01	20
	12	
% V/V	7.99%	
% V/V	1.72%	

LD50 1790mg/kg
3200mg/kg
LC50
LD50 5000mg/kg
3600mg/kg
6410mg/kg
12800mg/kg

U

	2.2.5		2.2.5-1		
			2.2.5-2	VOC	
	2.2.6			9	
	2.3		/UV		
			2.3-1		2.3-1
	1)			/	
	2)	/		PCB	
		/			
	3)				PCB
	4)		PCBA		
		180-50	50--160	160-210	210-250
			PCBA	/	-

5) AOI
PCBA

PCBA

6) AI

DIP

PCB

		/UV	VOCs
			VOCs
			COD _{Cr}
		/UV	

2.5.1

2005 7

2.5.1-1

2.5.1-1

1	2010 5	200	200	[2010]92	2010 9 2010 171	/

91330600776608451E001W

COD_{Cr} 500mg/L

DB33/887-2013

35mg/L

COD_{Cr} 0.733 / NH₃-N 0.064 /

COD_{Cr}

COD_{Cr}

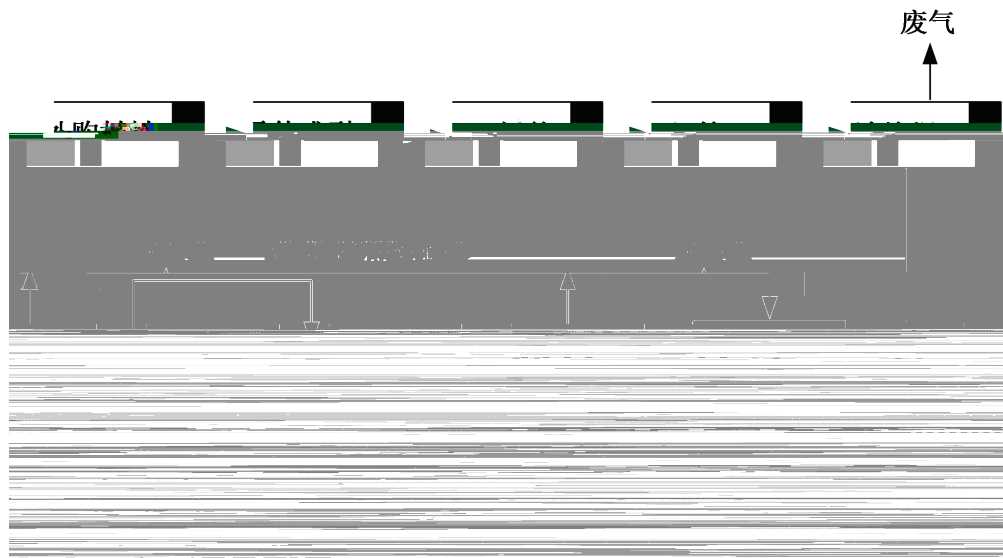
80mg/L

10mg/L	COD _{Cr}	0.147t/a	0.018t/a
		200	
	VOCs		0.2t/a
VOCs	0.588t/a		
	2.5.1-2		
	t/a		

2.5.3-1

			(/)			
1		/	4	4	4	
2		/	4	4	4	
3		/	7	7	7	
4		/	2	2	2	
5		/	2	2	2	
6		/	2	2	2	
7		/	2	2	2	
8		/	2	2	2	

2.5.4



2.5-1

1

2 PCB

PCB

3

PCB

4

5

PCB

PCB

6

7

8

2.5.5

2.5.5.1

1

350

50L/d

4375t/d

85%

3718.75t/a

2

(2024(HJ)080680 2024 8

22)

2.5.5-2

2.5.5-2 mg/L(pH)

2024 08 22

01RD10101 01RD10102 01RD10103

pH	7.1	33.9	7.2	34.5	7.1	34.3	6~9
	152		143		138		500

(GB8978-1996)

DB33/887-2013

3

2.5.5-3

2.5.5-3

2.5.5-3

	t/a	3718.75	3718.75
CODcr	mg/L	144	80
	t/a	0.536	0.298
NH ₃ -N	mg/L	31.6	10
	t/a	0.118	0.037

2.5.5.2

1

2024(HJ)120696

2024 12 23)

(

		kg/h	8.27 × 10 ⁻⁴	0.52	
--	--	------	-------------------------	------	--

(DB16297-1996) 2 8.27 × 10⁻⁴ kg/h
 10⁻⁴kg/h 2000h
 0.0017t/a 0.0028t/a



2.5.5-8

2024

VOCs(t/a)	0.569
(t/a)	0.0017
(t/a)	3718.75
CODcr(t/a)	0.959
(t/a)	0.120

"

5

3

"

(1)

3.1-2

3.1.3

"

/m

3.3-1 DA001 (mg/m ³)					
1			1000		DB33/2146-2018
2	(NMHC)		80		
3	TVOC		60		
3.3-2 DA001 (mg/m ³)					
		GB16297- 1996			
			mg/m ³	kg/h	
		15	120	3.5	
		15	8.5	0.31	
		15	5.0	0.15	
2					
VOCs					
DB33/2146-2018					
GB16297- 1996 2					
3.3-3					
		mg/m ³			
1	VOCs		4.0		DB33/2146-2018
2			20		
3		/	1.0		GB16297- 1996
4		/	0.24		
5		/	0.04		
VOCs					
GB37822-2019					
3.3-4					
		mg/m ³			
NMHC		6	1h		
		20			

3.3.2

GB8978-1996 4

DB33

887-2013

[2017]57

GB/T31962-2015

91330621736016275G001V

3.3-5

pH mg/L

pH	6 9	6 9
(COD _{Cr})	500	80
(BOD ₅)	300	20
	400	6 9

(2025) (GB5085.7-2019)

(2024 4)

GB18599-2020 ()

(GB18597-2023)

3.4

COD

< >

([2014]197)

VOCs

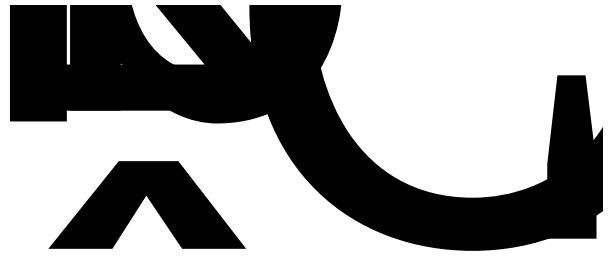
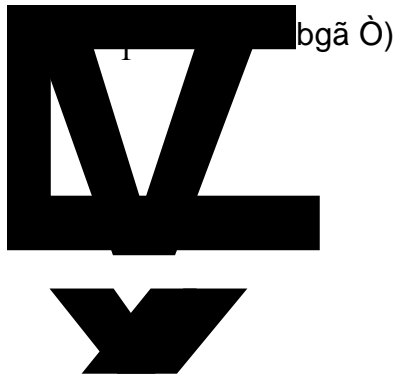
3.4.1

3.4-1

3.4-1

			“ ”				
					/		
	t/a	1832.8	1832.8	10200	10200	10200	8367.2
COD(t/a)		0.916	0.916	5.100	5.100	5.100	4.184
		0.147	0.147	0.816	0.816	0.816	0.669
NH ₃ -N(t/a)		0.064	0.064	0.357	0.357	0.357	0.293
		0.018	0.018	0.102	0.102	0.102	0.084

	(t/a)		0.082	0.082	0.459	0.459	0.459	0.377
			0.027	0.027	0.153	0.153	0.153	0.126
	VOCs		0.588	0.588	0.951	0.951	0.951	0.363
		(t/a)	0.0028	0.0028	0.011	0.011	0.011	0.008
*		COD						0.4t/a
	97.1%	VOCs		0.388t/a				



“ ”

7

1

2

3

4

4.2

4.2.1

#q: # (™

>Xí

@ QP,@ 2D

4.2-1

/

\

(h)

UV

2t VOCs

MSDS

95%

98%

80%

"

+

"

40000m³/h

4.2-4

		mg/m ³	kg/h	t/a	t/a	mg/m ³	kg/h	t/a
		0.075	0.003	0.011	0.000	0.077	0.003	0.011
		-	8.75E-05	3.15E-04	0.000	-	8.75E-05	3.15E-04
		-	-	0.011	0.000	-	-	0.011

3

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+

"

DA001

40000

20

GB14554-93

4.2-5

4.2-5

		t/a	t/a	t/a
	VOCs	3.351	2.400	0.951
		0.011	0	0.011
	VOCs	3.351	2.400	0.951
		0.011	0	0.011

4.2.2

1h

0%

4.2-8

mg/m³ kg/h /h /

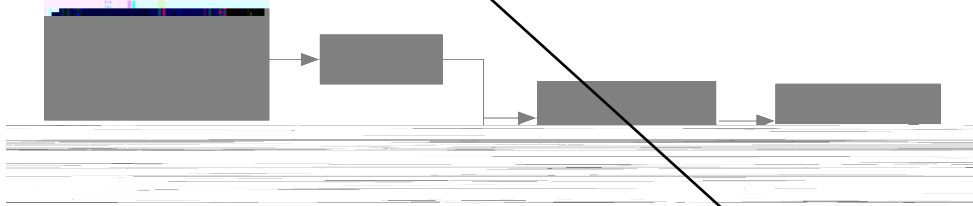
DA001

4.2-10

				(m ³ /h)		(m ³ /h)	
DA001		8		1000	98%	8000	
	/	20		60	98%	1200	
	UV	9		400	98%	3600	
		26		300	98%	7800	
		15		1200	98%	18000	
			(m ²)	v m/s		(m ³ /h)	(m ³ /h)
		3	0.1	0.5	1.05	189	567.0
							39167
						40000	

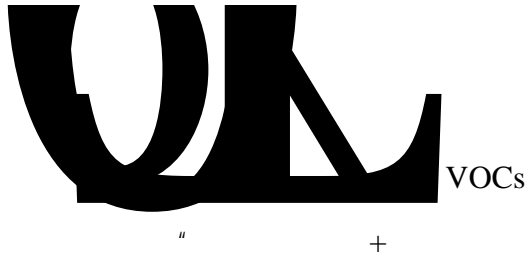
(2)

4.2-1



4.2-1

B.1



HJ1031—2019

"

VOCs

DB33/2146-2018

1

GB16297-1996

-

BET

350m²/g

0.60m/s

80%

VOCs

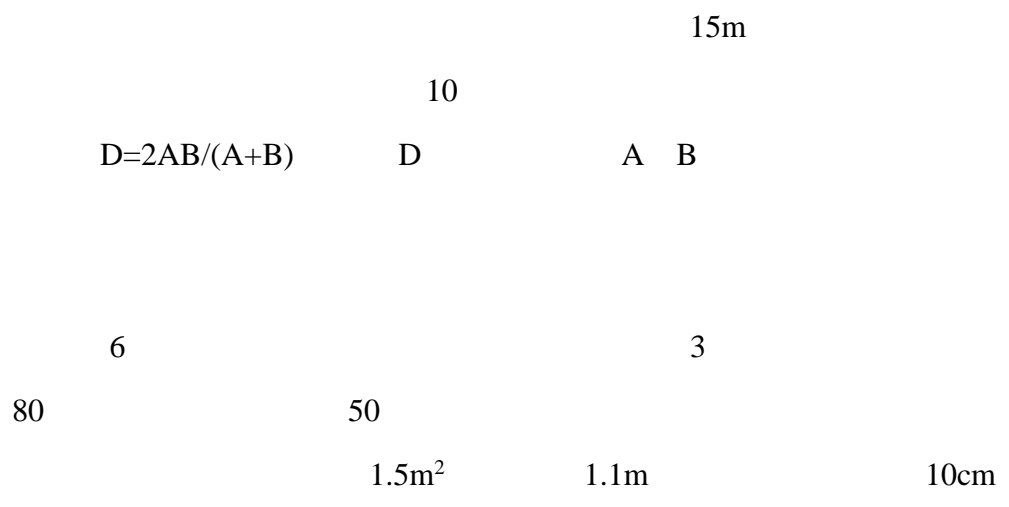
200mg/Nm³

40000m³/h

3t

4.2-1

4.2.6



4.3

4.3.1

4.3-1

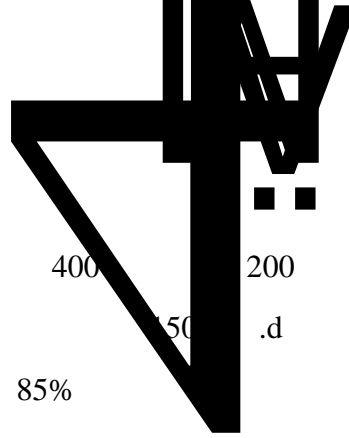
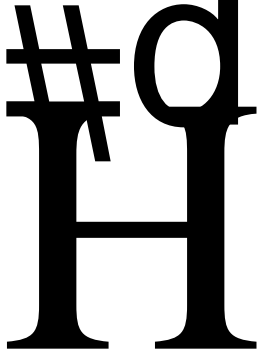
4.3-1

/													/(h/a)		
			(m ³ /a)	(mg/L)	(t/a)	(m ³ /d)			(%)		(m ³ /a)	(mg/L)		(t/a)	
	COD _{Cr}		10200	350	3.570	/	+		/		500	5.100	500	3600	
				35	0.357				/			35	0.357		35
				50	0.510				10%			45	0.459		45

4.3-2

4.3-2

DW001		120.625989	30.086812	0:00-24:00				GB8978-1996 DB33 887-2013 GB/T31962-2015



400 200
50 .d
85% 34t/d(10200t/a)
CODcr 350mg/L NH₃-N 35mg/L 50mg/L pH6-8
1 1 500m³/h
2.525m³/h 3600h/a
9090m³/a

CODcr

4.3-3

4.3-3

			COD _{Cr}		NH ₃ -N		TN	
	t/d	t/a	mg/L	t/a	mg/L	t/a	mg/L	t/a
	34.00	10200	350	3.570	35	0.357	50	0.510
	34.00	10200	500	5.100	35	0.357	45	0.459
	34.00	10200	80	0.816	10	0.102	15	0.153

1

4.3.2

4.3.2

90 /

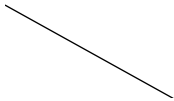
30 t/d

" A/O"

4.3-4

pH

í



			4.4-1			()					
						/m	L _{p1}	TL			
		/dB(A)	X	Y	Z	/m	/dB(A)	/dB(A)	/dB(A)	(m)	
1	2F	70	85.7	1.4	8.9	10	47.3	21	26.3	1	
2	3F	70	84.7	6.7	14.1	10	46.2	21	25.2	1	
3	2F	75	81.3	3.1	8.9	10	52.3	31	31.3	1	
4	3F	75	81.5	6.7	14.1	10	51.2	21	30.2	1	
5	2F	75	77.9	3.4	8.9	10	52.3	21	31.3	1	
6	3F	75	77.5	8.0	14.1	10	51.2	21	30.2	1	
7	AOI 2F	75	28.9	11.5	8.9	15	50.5	21	29.5	1	
8	AOI 3F	75	29.1	15.0	14.1	15	51.1	21	30.1	1	
9	2F AOI	75	72.9	3.8	8.9	10	53.4	21	32.4	1	
10	3F AOI	75	79.5	3.6	14.1	10	52.6	21	31.6	1	
11	2F AOI	75	72.6	9.0	8.9	10	53.4	21	32.4	1	
12	3F AOI	75	79.1	8.6	14.1	10	52.6	21	31.6	1	
13	2F	75	99.8	2.0	8.9	5	57.2	21			

19		75	21.0	29.9	20.0	7	58.6	21	37.6	1
20		75	99.9	-0.9	14.5	6	55.6	21	34.6	1
21	2F	75	20.5	12.3	8.9	15	50.5	21		

4.4.2

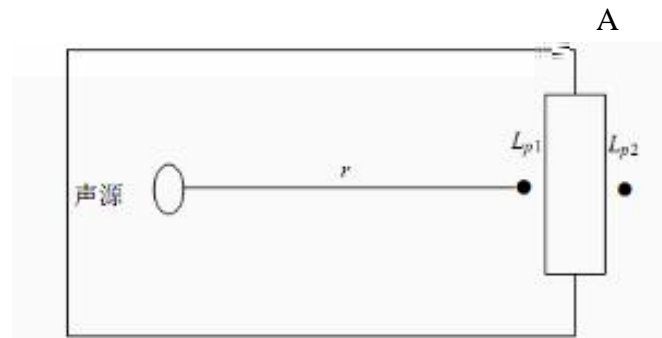
(HJ2.4-2021)

HJ2.4-2021 A()

B() “B.1 ”

()

A L_{p1} L_{p2}



$$L_{P2}=L_{P1}-(TL+6)$$

$$L_{p1} = L_w - 10 \lg\left(\frac{Q}{4\pi r^2} - \frac{4}{R}\right)$$

$$R=S / (1-)$$

L_{P2} () A dB

L_{P1} () A dB

TL () A dB

L_w (A) dB

Q Q=1

Q=2 Q=4

Q=8

r m

R

S m^2

$$L_p(r) = L_p(r_0) - 20 \lg(r/r_0)$$

$$\begin{array}{l} L_p(r) \quad \quad \quad \text{dB} \\ L_p(r_0) \quad \quad r_0 \quad \quad \quad \text{dB} \\ r \\ r_0 \end{array}$$

$$\begin{array}{l} i \quad \quad \quad A \quad \quad L_{Ai} \quad \quad T \\ t_i \quad j \quad \quad \quad A \quad \quad L_{Aj} \quad \quad T \\ \quad \quad \quad t_j \quad \quad \quad \quad \quad \quad \quad \quad (L_{eqg}) \\ L_{eqg} = 10 \lg \left[\frac{1}{T} \sum_{i=1}^N t_i 10^{0.1 L_{Ai}} + \sum_{j=1}^M t_j 10^{0.1 L_{Aj}} \right] \end{array}$$

4.4-3

4.5-1

						(t/a)			(t/a)
		900-008-S17	PCB		-	160			160
		900-099-S59			-	0.25			0.25
		900-003-S17			-	28.76			28.76
		HW49 900-045-49			T	4			4
		HW49 900-041-49			T/In	0.748			0.748
		HW49 900-039-49			T	14.4			14.4
		HW06 900-404-06			T/In	0.814			0.814
		HW49 900-041-49			T/In	0.2			0.2
	/UV	HW12 900-252-12	UV		T/In	0.774			0.774
		HW13 900-014-13			T	0.52			0.52
					-	60			60

1				
		160t/a		
2				1%
	25t/a	0.25t/a		
3				
			28.76t/a	
4				
	0.1%	25000 /	4t/a	
5				
			0.748t/a	
6				
	1	VOCs	0~200mg/m3	
	40000m ³ /h	3600h/a	-	
			A	
		3t	4 /	
	VOCs	2.337t/a	14.4t/a	
7				

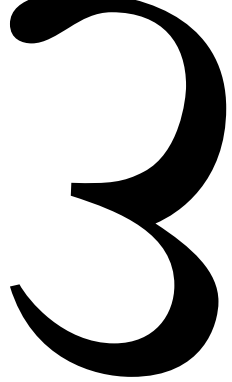
				0.3t/a			
	VOC	10%				0.814t/a	
8							
	1						0.2t/a
9							
	UV	70%				0.774t/a	
10							
							80%
	0.52t/a						
9							
	400				0.5 kg/d		
	60t/a						
	1	30m ²		1	30m ²		
1m		1t/m ³		50%			15t
		21.356t/a		90			
						(2017
43)						
				4.5-2			
		4.5-2					
				m ²			
1							3
2							3
3							3
4				30		15 t	3
5							3
6							3
7							3
4.5.2							

()

(GB18599-2020)

GB18597-2023

4.5-3



1m

10^{-7} cm/s

2mm

10^{-10} cm/s

5

6

:

(1)

(2) 9 €

(3)

(4)

(5)

(6)

(7)

(HJ1276-2022)

A

:

1

2

3

(3)

(4)

(5)

(6)

(7)

4.5.3

4.6

4.6.1

4.6-1

4.6-1

	/					
			COD _{Cr}	/		

4.6.2

(GB50108-2008)

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I II III IV/VI⁺

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(E)	(P)			
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(E1)	IV ⁺	IV	III	III
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(E3)	III	III	II	I
IV ⁺				

4.7.3.2

(P)

(1)

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Q

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