

2024 1 1 2024 12 31

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1.3.1	6
1.3.2	6
1.3.3	6
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3.2.1		

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7.1.1	1
7.1.2	1
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1.3

1.3.1

	2024	2024	1	1	2024	12	31
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1.3.2

1.3.3

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	GHG protocol	ISO14064-1	2018
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1.5

1.6

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ISO 14064-1

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GHG

2.2

2.3

1-6

2.1

1		1 GHG	tCO ₂ e	
1	1.1			
1	1.2			
1	1.3			
1	1.4			
1	1.5			
2		2 GHG	tCO ₂ e	
2	2.1			
2	2.2			
3		3 GHG		
3	3.1			
3	3.2			
3	3.3			
3	3.4			
3	3.5			
4		4 GHG		
4	4.1			
4	4.2			
4	4.3			
4	4.4			
4	4.5			
5		5 GHG		
5	5.1	GHG		
5	5.2			

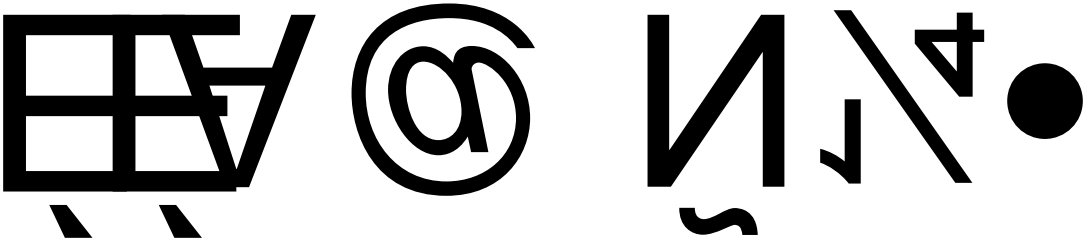
5	5.3			
5	5.4			
6		6	GHG	GHG

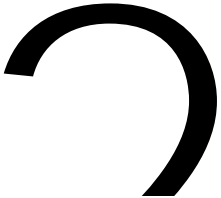
2.2

			ISO14064-1 2018	ISO14064-1 2018	CO2	CH4	N2O	HFCs	PFCs	SF6	NF3	
1			1	1.1	√	√	√					
2			1	1.2	√	√	√					
3			1	1.3	√	√	√					
4	- R22		1	1.4				√				
5	- R404a		1	1.4				√				
6	CH4		1	1.4		√						
7			2	2.1	√							
8			3	3.1	√							
9			3	3.1	√							
10			3	3.1	√							
11			3	3.1	√							
12			3	3.2	√							
13			3	3.2	√							
14			3	3.3	√							
15			3	3.3	√							
16			3	3.3	√							
17			3	3.3	√							

18			3	3.3	√
191	o	mí	3	3.4	√
20			3	3.4	√
21			3	3.4	√
22			3	3.5	√
23			3	3.5	√
24			3	3.5	√
25			4	4.1	√
26			4	4.1	√
27			4	4.1	√
28			4	4.1	√
29			4	4.1	

5 

5 



45			4	4.1	√								
46			4	4.1	√								
47			4	4.1	√								
48	/		4	4.1	√								
49			4	4.1	√								
50			4	4.1	√								
51			4	4.1	√								
52			4	4.1	√								
53	/		4	4.1	√								
54			4	4.1	√								
55			4	4.1	√								
56			4	4.1	√								
57			4	4.1	√								
58	/		4	4.1	√								
59			4	4.1	√								
60			4	4.1	√								
61			4	4.1	√								
62			4	4.1	√								
63			4	4.1	√								
64			4	4.1	√								
65			4	4.1	√								
66	/		4	4.1	√								
67			4	4.1	√								
68			4	4.1	√								
69			4	4.1	√								
70			4	4.1	√								
71			4	4.1	√								
72			4	4.1	√								
73			4	4.1	√								

		40.70%	0%	0%	0%	0%	0%	0%	40.70%
3	(t-CO2e/)	2,163.79	-	-	-	-	-	-	2,163.79
		1.61%	0%	0%	0%	0%	0%	0%	1.61%
4	(t-CO2e/)	39,458.00	-	-	-	-	-	-	77,102.84
		29.39%	0%	0%	0%	0%	0%	0%	57.42%
5	(t-CO2e/)	-	-	-	-	-	-	-	-
		0%	0%	0%	0%	0%	0%	0%	0%
6	(t-CO2e/)	-	-	-	-	-	-	-	-
		0%	0%	0%	0%	0%	0%	0%	0%
	(t-CO2e/)	96,387.22	2.26	0.006966	0.04	-	-	-	134,274.92
		71.78%	0.05%	0%	28.17%	0%	0%	0%	100%

3.2.2

3.2

3.2

					t-CO2e	(%)		
1			4,155.0	M8	9.16	0.01%	1	1.1
2			6,160.0	L	18.05	0.01%	1	1.2
3			29,430.0	KG	92.48	0.07%	1	1.3
4	-R22		6	KG	11.45	0.01%	1	1.4
5	-R404a		80.0	KG	166.43	0.12%	1	1.4
6	CH4		123,945.0	*	59.13	0.04%	1	1.4
7			95,829,544		54,651.59	40.70%	2	2.1
8			759,616	t*KM	114.09	0.08%	3	3.1
9			13,406	t*KM	3.49	0.00%	3	3.1

10

11,700

t*KM

0.33

0.00%

3

48	/		22000	kg	68.24	0.05%	4	4.1
49			941	kg	2.92	0.00%	4	4.1
50			40680	L	62.81	0.05%	4	4.1
51			44360	L	10.28	0.01%	4	4.1
52			682955	kg	14,440.83	10.75%	4	4.1
53	/		76319	kg	236.74	0.18%	4	4.1
54			8107	kg	25.15	0.02%	4	4.1
55			10256	kg	28.72	0.02%	4	4.1
56			10698.56	kg	19.47	0.01%	4	4.1
57			629180	kg	1,258.36	0.94%	4	4.1
58	/		67378	kg	437.96	0.33%	4	4.1
59			17775	kg	49.77	0.04%	4	4.1
60			98712	kg	333.32	0.25%	4	4.1
61			9669.4	kg	11.60	0.01%	4	4.1
62			185625	kg	341.55	0.25%	4	4.1
63			13175	kg	36.89	0.03%	4	4.1
64			555042	kg	774.72	0.58%	4	4.1
65			1210175	kg	2,946.78	2.19%	4	4.1
66	/		306608	kg	805.72	0.60%	4	4.1
67			22426	kg	438.78	0.33%	4	4.1
68			92000	kg	128.41	0.10%	4	4.1
69			2329	kg	2.61	0.00%	4	4.1
70			1440	L	0.61	0.00%	4	4.1
71			13953.2	kg	14.23	0.01%	4	4.1
72			1260	kg	2.64	0.00%	4	4.1
73			261119	kg	506.31	0.38%	4	4.1
74			1722	kg	3.17	0.00%	4	4.1
75			5574	kg	5.57	0.00%	4	4.1
76			475381	kg	874.70	0.65%	4	4.1
77			9627	kg	9.82	0.01%	4	4.1
78			3867.168	kg	3.87	0.00%	4	4.1
79			3500	kg	2.98	0.00%	4	4.1
80			28150	kg	12.38	0.01%	4	4.1

2024

1

2

10%

3

(),

10%

1					6	3	18
2					6	2	12
3					6	1	6
4	- R22				3	1	3
5	- R404a				3	2	6
6	CH4				3	5	15
7					6	2	12
8					3	2	6
9					3	2	6
10					3	5	15
11					3	1	3
12					3	2	6
13					3	2	6
14					1	2	2

15					1	5	5
16					1	1	1
17					1	2	2
18					1	2	2
19					1	2	2
20					1	2	2
21					1	5	5
22					1	2	2
23					1	2	2
24					1	5	5
25					6	2	12
26					6	1	6
27					6	1	6
28					3	5	15
29					3	5	15
30					3	5	15
31					3	1	3
32					3	1	3
33	15*0.8(6	5	30
34	1700m				6	1	6
35					3	1	3
36					3	1	3
37					6	1	6
38					6	4	24
39					3	1	3
40					3	5	15
41					6	5	30
42					6	5	30
43					6	5	30
44					6	5	30
45					3	5	15
46					6	5	30
47					6	4	24
48	/				3	5	15
49					3	5	15
50					6	5	30
51					6	1	6
52					6	1	6
53	/				3	5	15

54					3	5	15
55					3	5	15
56					6	5	30
57					3	5	15
58	/				6	5	30
59					3	5	15
60					3	5	15
61					6	5	30
62					3	5	15
63					6	5	30
64					6	1	6
65					6	1	6
66	/				6	1	6
67					6	1	6
68					6	1	6
69					3	1	3
70					3	1	3
71					3	1	3
72					3	1	3
73					6	1	6
74					3	5	15
75					6	5	30
76					6	1	6
77					3	1	3
78					3	5	15
79					6	2	12
80					6	2	12

2022

1 -

GHG = ×

kg m³

kWh

t*km . km .

kg

kg

1 0.84kg/L

2 0.775kg/L GB17930-2016 2 V

2 - CH4 :

$$= \text{BOD} \times \text{Bo} \times \text{MCF} \times (1 -)$$

BOD 50g/ / BOD 40-60g/

BOD 50g/

Bo BOD Bo 0.6 kg CH4 /kg BOD

MCF MCF MCF=0.6 IPCC 2006 6 6.2

6.3

/ 5%

3 - :

$$\text{GHG} = \times \times \text{GWP} *8\%$$

IPCC

8%

1 GWP IPCC2021

5.2.3

IPCC

---6 ---3 ---1

/ ---6 / ---5 ---4 ---3

---2 ---1

1.	1~6
2.	7~12
3.	13~18
4.	19~24
5.	25~30
6.	31~36

1> 1.4

2> 1.5

3> 4.1

4>	4		GHG	5		GHG
6	GHG	GHG				

7.1.1

7.1.2

8.1

2024 1 1 ~2024 12 31

8.2

8.3

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5

6

6 2025-2030

2025 - 2030

2030

100

2024

5%

[1] ISO14064-1-2018

[2] GB/T 2589-2020

[3] 2006 IPCC Guidelines for National Greenhouse Gas Inventories

[4] Greenhouse Gas Protocol Corporate Accounting and Reporting Standard revised

[5] IPCC2006 6

[6] GB17924-2016

[7]

[8] 2022

[9] 2017

2014

33

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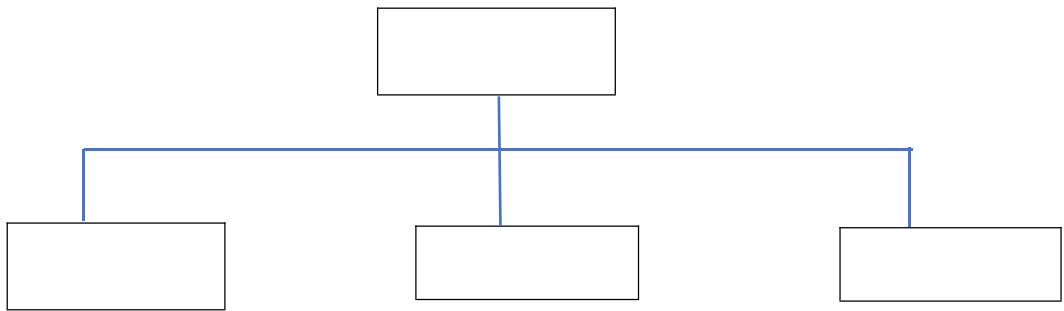
2025

1

1.3.1	6
1.3.2	6
1.3.3	6

3.2.1	
3.2.2	

7.1.1	16
7.1.2	16



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0.1%

2%

5%

	0'0	
1	1.20	0.02%
2	0.67	0.01%
3	0.08	0.00%
4	10.91	0.18%
5	794.82	13.17%
6	12.87	0.21%
7	8.64	0.14%
8	0.40	0.01%
9	2.70	0.04%
10	2.24	0.04%
11	4.59	0.08%
12	4.92	0.08%
13	0.10	0.00%
14	0.03	0.00%
15	0.04	0.00%
16	0.86	0.01%
17	0.03	0.00%
18	0.06	0.00%
19		

22					9.31	0.15%		
23					115.79	1.92%		
24					4,720.18	78.22%		
25					1.82	0.03%		
26					6.41	0.11%		
27					11.57	0.19%		
28					136.83	2.27%		
29					65.33	1.08%		
30					71.50	1.18%		
31					29.88	0.50%		
32					16.60	0.28%		
33					3.82	0.06%		

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2024

2

10%

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2022

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BOD

40-60g/

BOD

50g/

o

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4





1> 1.4

2> 1.5

3> 4.1

4>

4

GHG

5

GHG

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GHG

GHG

7.1.1

7.1.2

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3

4

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6 2025-2030

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2025

1

1.3.1

1.3.2

1.3.3

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3.2.1

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7.1.1

7.1.2

2002 12

98.76%

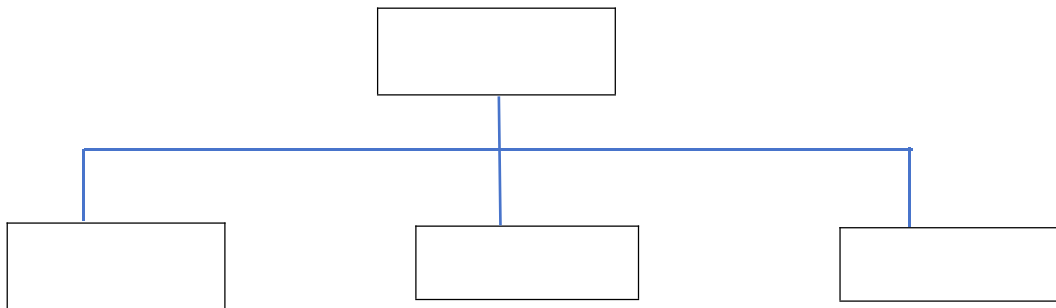
5000

1500pcs

47%

SMD2016

+



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0.1%

2%

5%

2024

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2

3

10%

10%

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1						3	9
2						1	3
3						2	6
4						5	15
5						2	12
6						3	9
7						2	6
8						2	6
9						5	15
10						1	3
11						2	6
12						2	6
13						2	6
14						2	6
15						5	15
16						2	12
17						5	30
18						5	30
19						5	15
20						5	30
21						5	30
22						5	30
23						5	30

2022

o

BOD

40-60g/

BOD

50g/

o

o

o

4

6 3 1
/ 6 / 5 4 3
2 1

-
1. 1~6
 2. 7~12
 3. 13~18
 4. 19~24
 5. 25~30
 6. 31~36
-

1> 1.4

2> 1.5

3> 4.1

4>

4

GHG

5

GHG

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GHG

GHG

7.1.1

7.1.2

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4

6 2025-2030

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2025

1

1.3.1

1.3.2

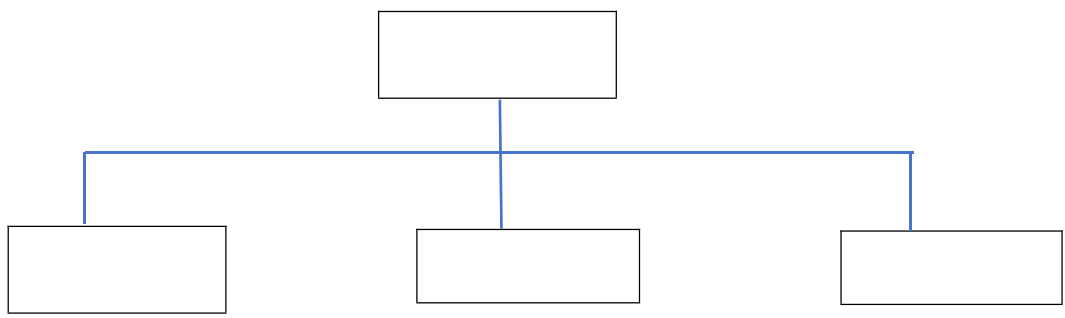
1.3.3

3.2.1

3.2.2

7.1.1

7.1.2



2.2

					√	√	√						
					√	√	√						
					√	√	√						
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0.1%

2%

5%

1

0.3;

10					0.284	0.01%		
11					0.499	0.01%		
12					0.646	0.02%		
13					0.091	0.00%		
14					0.054	0.00%		
15					0.180	0.01%		
16					0.583	0.02%		
17					2,384.25	66.55%		
18					118.334	3.30%		
19					51.644	1.44%		
20					0.003	0.00%		
21					0.246	0.01%		
22					0.001	0.00003%		
23					0.054	0.00150%		
24					0.222	0.01%		

2024

2 10%

3 (),

10%

1						1	3
2						2	6
3						5	15
4						3	18
5						2	6
6						2	6
7						4	12
8						2	6
9						5	15
10						5	15
11						5	15
12						5	15
13						2	6
14						5	15
15						5	15
16						2	12
17						5	30
18						5	30
19						5	30
20						5	30
21						5	30
22						5	30
23						5	30
24						5	30

2022

o

BOD

40-60g/

BOD

50g/

o

o

o

4

6 3 1
/ 6 / 5 4 3
2 1

-
1. 1~6
 2. 7~12
 3. 13~18
 4. 19~24
 5. 25~30
 6. 31~36
-

SEITE 6

1> 1.4

2> 1.5

3> 4.1

4>

4

GHG

2< 5 ÈÂh

GHG

6

GHG

.GHG

1G4•

ÖG-h

7.1.1

7.1.2

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2025

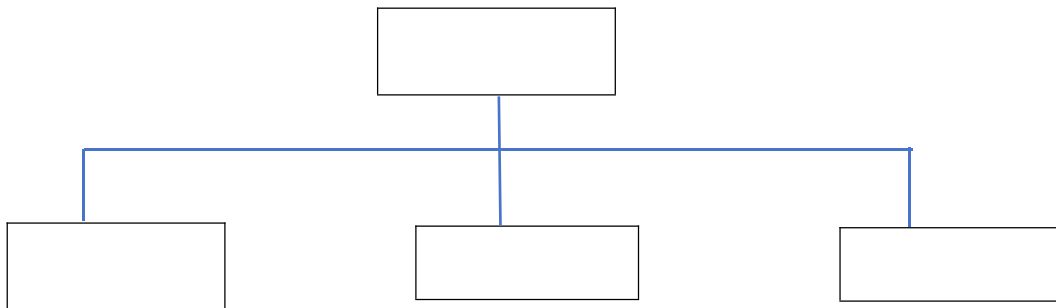
1

	5
	5
	5
	6
1.3.1		
1.3.2		
1.3.3		

	15
	15
7.1.1		
7.1.2		
	15
	15
	15
	16
	17
	18

SKC 25% 2004 12 2020 75% 500 SK
 SKC
 3-12 m BOPET
 220-320MPa 350V 5
 m 2024
 3000

+



2.2

					√	√	√						
					√	√	√						
					√	√	√						
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+6



+e

2024

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 2 10%
 3 ()
 10%

1						3	9
2						1	3
3						1	3
5						5	15
6						2	12
8						2	6
						2	6
10						5	15
11						2	6

12

2

6

13

2

6

17

2

6

18

2

6

19

2

6

20

2

6

22

1> 1.4

2> 1.5

3> 4.1

4>

4

GHG

5

GHG

6

GHG

GHG

7.1.1

7.1.2

1

2

3

4

5

6 2025-2030

3

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1570@D

"U-

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2025

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1.3.1

1.3.2

1.3.3

9

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10

10

10

10

3.2.1

3.2.2

10

11

11

11

12

7.1.1

7.1.2

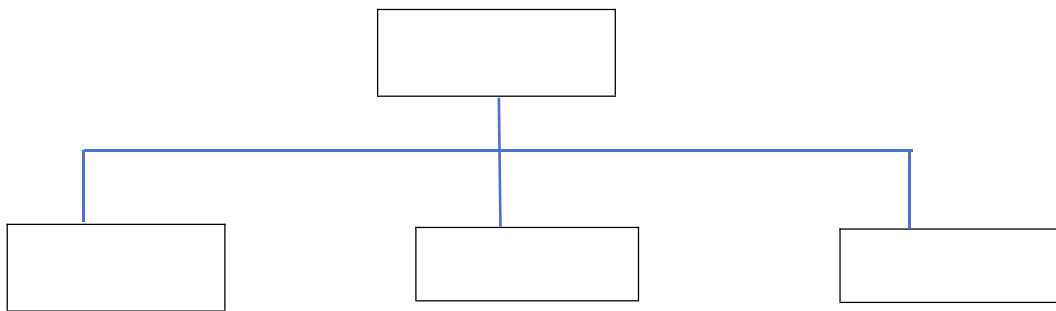
2017 3
61.74% 5410.39

WTB

2024

35.72%

+



2024

1

2

3

10%

10%

()

o

BOD

40-60g/

BOD

50g/

o

o

o

4

IPCC

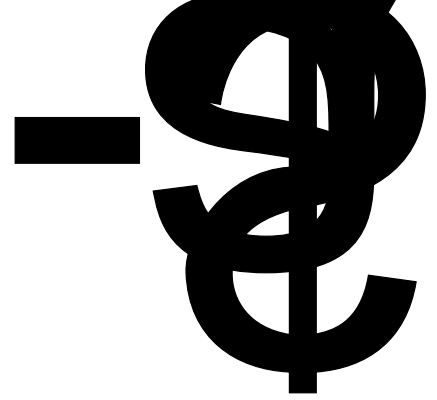
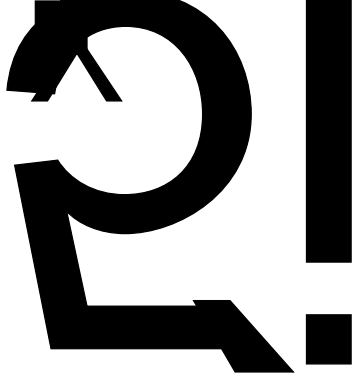
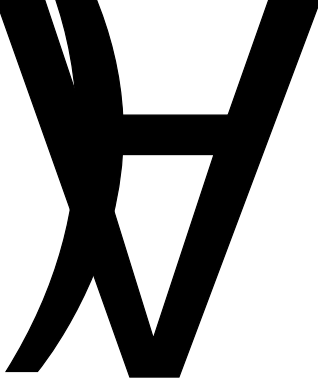
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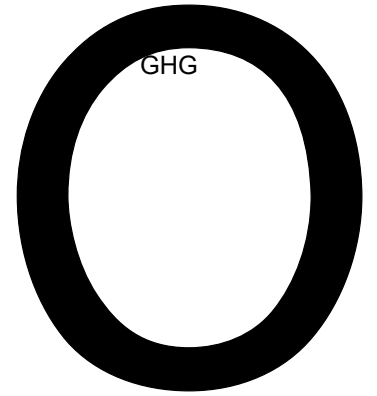
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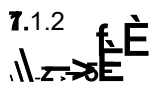
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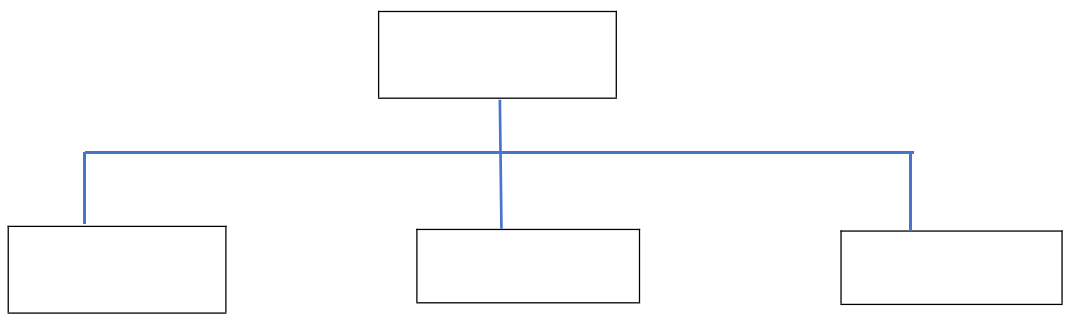
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