• ê Ì 2020.1.1˜ʾ

• ˀ [2020]50 ê ˗ ˀ ɢ <

> Ì ˆ 2020.4.20˜ʾ

• [2012]5 ê ˗ ɢ < > Ì

ˆ 2012.2.6˜ʾ

• ˗ 309 ê س ˀ Ì 2017.8.1˜ʾ

• ê Ì 2017.1.1˜ʾ

• ˀ [2020]37 ê ˗ ˀ ɢ <

> Ì 2020.8.6˜ʾ

• [2016]13 ê ˗ ɢ < > Ì

(2016.5.24)

• ˀ [2020]83 ê ˗ ˀ ɢ < >

Ì (2020.6.19)

• ˀ [2019]14 ê ˗ ɢ < > Ì

(2019.11.12)Â

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• ˀ [2014]34 ê ˆ ˜ Ì 2014.4.3˜

• ˀ [2019]17 ê ˆ ˜ Ì 2019.3.19˜

• ê Ì HJ941-2018˜ʾ

• ê Ì HJ169-2018˜ʾ

• ê ف Ì HJ610-2016˜ʾ

• ê س Ì GB18218-2018˜ʾ

• ê Ì GB50406-2017˜ʾ

• ê Ì GB6222-2005˜

• ê Ì GB51066-2014˜Â

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	28		NW	1777	732	
	29	ĭ	NE	1785	2751	
	30		NE	1834	1624	
	31		NW	1846	551	
	32		W	1909	792	
	33		E	2046	1905	
	34		S	2100	698	
	35		N	2102	894	
	36		S	2155	760	
	37		E	2181	369	
	38		NW	2308	617	
	39		NE	2324	2084	
	40		SW	2348	2357	
	41		SE	2457	593	
	42		S	2470	1789	
	43		W	2470	1803	
	44		SW	2471	691	
	45		S	2490	933	
	46		NW	2529	903	Hɔ
	47		NW	2550	1088	
	48		SW	2663	905	
	49		NW	2697	592	
	50		NE	2703	365	
	51		SW	2706	899	
	52		E	2780	2468	
	53		SW	2813	1208	
	54	Л	SE	3015	1761	
	55		NW	3072	507	
	56		SE	3270	367	
	57		NE	3281	967	
	58		S	3340	611	
	59		NE	3340	961	
	60		E	3359	391	
	61		N	3414	805	
	62		N	3573	537	
	63		S	3598	586	
	64		W	3654	468	
	65		W	3675	1407	

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	67		SW	3767	1199	
	68		S	3770	317	
	69		NW	3775	720	
	70		SW	3839	530	
	71		NE	3955	3651	
	72		NE	3992	961	
	73		NW	4066	937	
	74		SE	4130	395	
	75		W	4150	668	
	76		N	4187	1063	
	77		SE	4208	322	
	78		W	4312	943	
	79		N	4316	1692	
	80	ʿ	SW	4317	1677	
	81		N	4546	933	
	82		SE	4560	2508	
	83		NE	4563	1317	
	84		SE	4665	704	
	85		N	4698	1157	
	86		SW	4716	2482	
	87		NW	4718	568	
	88		W	4761	2417	
	89	,	E	4949	881	
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щ	1#2#3# ˆ 21m 11m 4.3m˘ 950m^{3}˜ ȁ 4#5# ˆ 21m 11m 4.3m˘ 950m^{3}˜ ȁ 1# ˆ 25m 9m 4.4m˘ 950m^{3}˜ ȁ 2#3# ˆ 4 14m 4m 12m˘ 2600m^{3}˜ ȁ 4# ˆ 40m 10m 9.9m˘ 3900m^{3}˜ ȁ 5# 40m 10m 9.9m˘ 3900m^{3}˜’	

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		1# ˆ OG˜ ˘ 1 ä 1 ä ҥ 1 ä ҥ 1 ä 3500m³/min ˆ 2000kW ˜ 1 ä 1 ä 1 ä 1 ’ ˘ ˘ 1 75m ä 1.68m ˆ DA001˜ Â 3# ˆ OG˜ ˘ 1 ä 1 ä ҥ 1 ä ҥ 1 ä 3500m³/min ˆ 2240kW ˜ 1 ä 1 ä 1 ä 1 ’ ˘ ˘ 1 75m ä 1.68m ˆ DA002˜ Â 1# ҥ ä 1#2# 1 1 35m ä 4.78m ˆ DA003˜ Â 3# ҥ 1 1 35m ä 4.78m ˆ DA004˜ Â 3# 1 1 35m ä 2.32m ˆ DA005˜ Â 1# 1 1 36m ä 5.2m ˆ DA006˜ Â 3# 1 1 36m ä 5.2m ˆ DA007˜ Â 1 18m ä 1.8m ˆ DA008˜ Â 1 18m ä 1.8m ˆ DA009˜ Â 1# ‖ ἴ ˘ 110500m³/h ä 120740m³/h ˆ 560kW+220kW ˜ 2 ’ 1 25m ä 1.7m ˆ DA010˜ Â 2# ‖ ἴ ˘ 110500m³/h ä 120740m³/h ˆ 560kW+220kW ˜ 2 ’ 1 25m ä 1.7m ˆ DA011˜ Â 3# ‖ ἴ ˘ 110500m³/h ä 120740m³/h ˆ 560kW+220kW ˜ 2 ’ 1 27m ä 1.7m ˆ DA012˜ Â 4# ‖ ἴ ˘ 110500m³/h ä 120740m³/h ˆ 560kW+220kW ˜ 2 ’ 1 27m ä 1.7m ˆ DA013˜ Â 1# ä 2# ‖ ἴ ˘ 220000m³/h 560kW ˜ 1 ’ 1 24m ä 2.8m ˆ DA014˜ Â 3# ä 4# ‖ ἴ ˘ 230000m³/h 710kW ˜ 1 ’ 1 19.5m ä 2.5m ˆ DA015˜ Â ‖ ἴ ˘ 169110m³/h ˆ 315kW ˜ 1 ’ 1 24m ä 2.8m ˆ DA016˜ Â 1 1 25m ä 1.8m ˆ DA017˜ Â 1 1 25m ä 2.2m ˆ DA018˜ Â 1# ä 2# ä 3# 3 3 15m ä 0.5m ˆ DA019 ä DA020 ä DA021˜ Â

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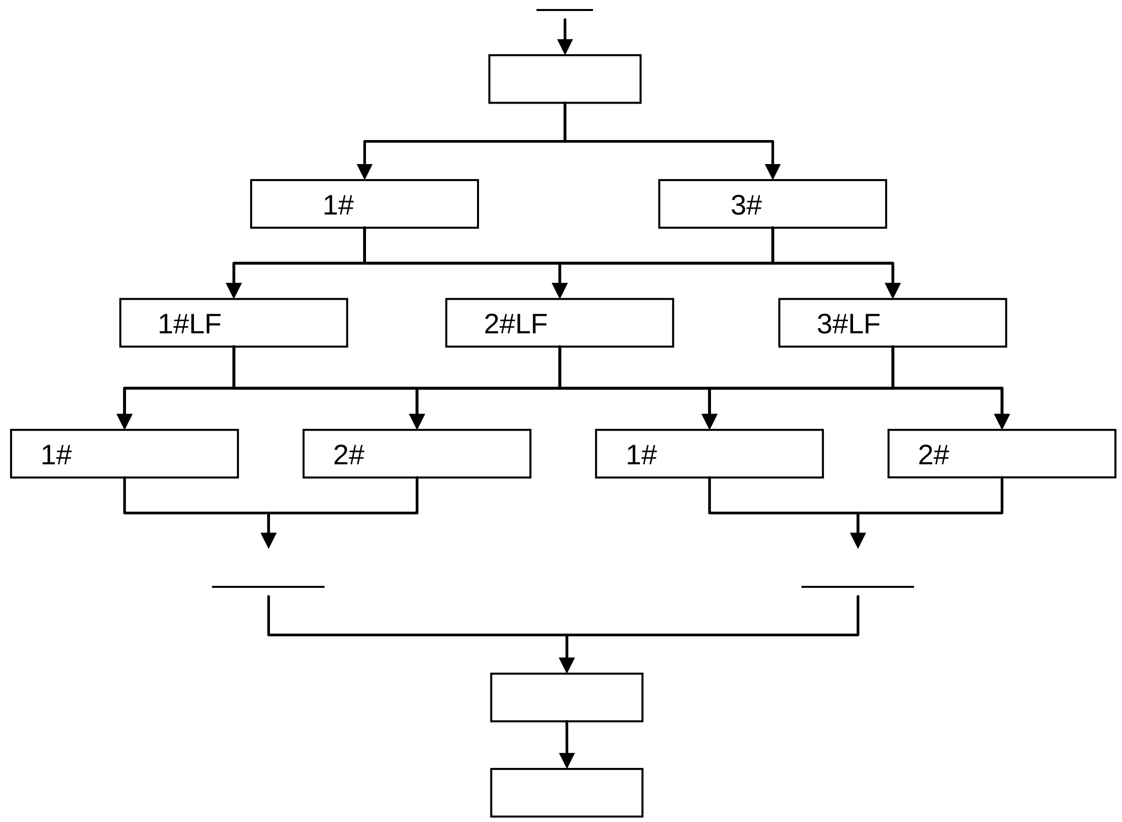

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1.7m ˆ DA010˜ Â

2# ‖ ȉ 1 25mà

1.7m ˆ DA011˜ Â

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1.7m ˆ DA012˜ Â

4# ‖ ȉ 1 27mà

1.7m ˆ DA013˜ Â

1#à 2# ‖ ȉ 1

24mà 2.8m ˆ DA014˜ Â

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19.5mà 2.5m ˆ DA015˜ Â

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24mà 2.8m ˆ DA016˜ Â

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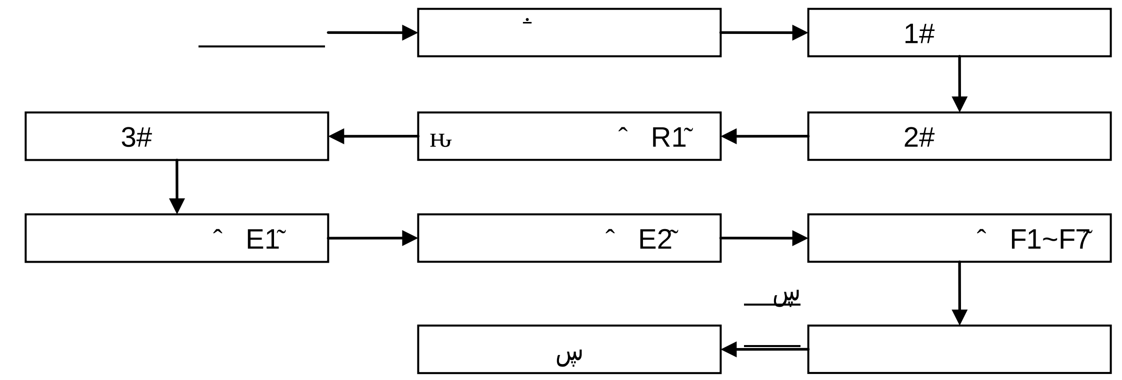

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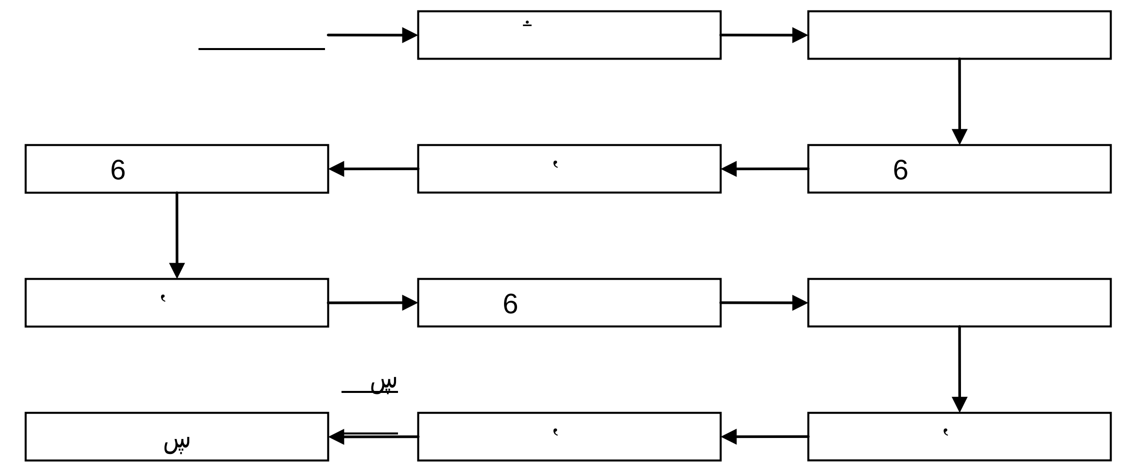

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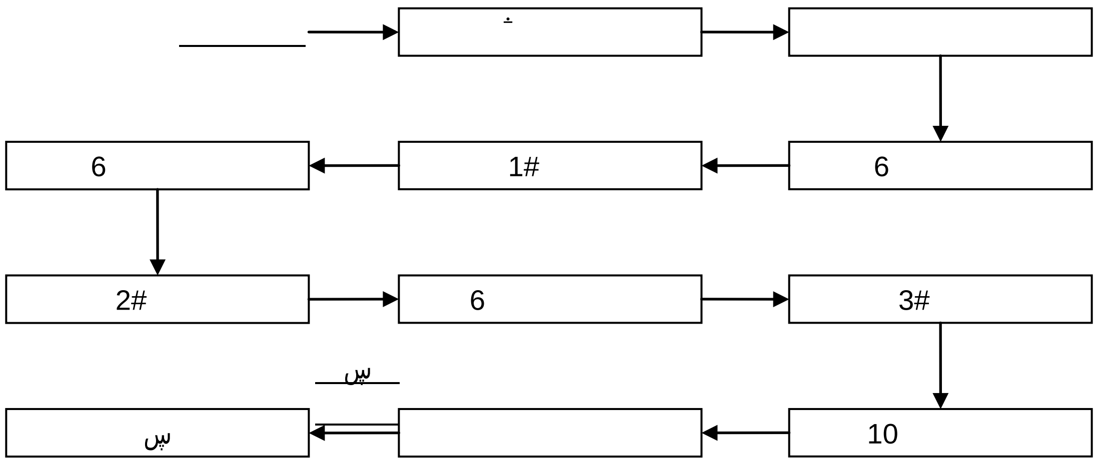

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1#	1	22mä	1.48m	ˆ DA023˜	’
2#	1	22mä	1.38m	ˆ DA024˜	’
2#	1	22mä	1.48m	ˆ DA025˜	’
	1	22mä	1.38m	ˆ DA026˜	’
	1	22mä	1.38m	ˆ DA027˜	’
	1	25mä	1.38m	ˆ DA028˜	’
	1	25mä	1.68m	ˆ DA029˜	’
	1	25mä	1.38m	ˆ DA030˜	’
	1	25mä	1.68m	ˆ DA031˜	Â

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49	ʿ	2		

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58	1000m6	3		
59	650m6	2		
60	650m6	1		
61	1000m6	1		
62	200m6	1		
63	400m6	1		
64	500m6 Ữ	1		
65	1000m6 Ữ	1		
66	105m6 Ữ	2		
67	150m6 Ữ	2		
68	500m6 Ữ	2		

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14400m³/d ˇ 20000m³/d˜ ȁ 360t/h˜ ŭ̋

2000m³/h˜ Â

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0.55MPa ȁ 100B]

15.5B] Â

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ΰ Â -65B]

˘ $CO_2 \leq$ 1ppmັ 22B] Â

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ˇ Ƕ ˘ Ͱ $14400m^3/d$ ˇ

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Hr 6-2Â

4 52 >"—"j :*<1 Â U 8°#w0A 4

B.

360t/h →

→ → → → → →

→ : → → → →5μm

→ → → → → → →

→ → → → → →5μm →

→ → → → → →

→

RO

:

RO RO RO 5 μm

RO RO RO RO

RO RO 5 μm RO

RO RO

6-3

C.

2000m³/h

4 Lš- "j1 8°#w0A 4

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RO ä NF ä UF

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	ΰ̏	
1	2 220t/h +2 65MW	

2 220t/h

2 220t/h SCR

1 80m 7m DA032

SCR

SCR

$$4NH_3+6NO \rightarrow 5N_2+6H_2O$$

$$8NH_3+6NO_2 \rightarrow 7N_2+12H_2O$$

800

~1000

$$2NaHCO_3+SO_2 \rightarrow Na_2SO_3+2CO_2+H_2O$$

$$2NaHCO_3 \rightarrow Na_2CO_3+CO_2+H_2O$$

$$Na_2CO_3+SO_2 \rightarrow Na_2SO_3+CO_2$$

$$2Na_2SO_3+O_2 \rightarrow 2Na_2SO_4$$

3 100t/h

3 100t/h SCR

1 100m 5.85m DA033

SCR

SCR

$$4NH_3+6NO \rightarrow 5N_2+6H_2O$$

$$8NH_3+6NO_2 \rightarrow 7N_2+12H_2O$$

80%

$$SO_2+H_2O \rightarrow H_2SO_3$$

$$CaO+H_2O \rightarrow Ca(OH)_2$$

$$H_2SO_3+Ca(OH)_2 \rightarrow CaSO_3+H_2O$$

$$2CaSO_3+O_2 \rightarrow 2CaSO_4$$

2 90t/h 1 50t/h 1 25t/h 2 40t/h 2 100t/h

2 90t/h SNCR 1 80m 4.57m DA034 1 50t/h 1 25t/h SNCR 1 50m 2.60m DA035 2 40t/h SNCR 1 50m 3.24m DA036 2 100t/h SNCR 1 100m 5.85m DA037

2 90t/h 1 50t/h 1 25t/h 2 40t/h 2 100t/h 5mg/m^3 ‰

SNCR

$$CO(NH_2)_2 \rightarrow NH_3+HNCO$$

$$HNCO+H_2O \rightarrow NH_3+CO_2$$

$$4NH_3+6NO \rightarrow 5N_2+6H_2O$$

$$8NH_3+6NO_2 \rightarrow 7N_2+12H_2O$$

$$2NH_3+SO_2+H_2O \rightarrow (NH_4)_2SO_3$$

$$2(NH_4)_2SO_3+O_2 \rightarrow (NH_4)_2SO_4$$

220t/h 100t/h

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			/m	/m
DA001	1#		1.68	75
DA002	3#		1.68	75
DA003	1# ҥ ä 1#2#		4.78	35
DA004	3# ҥ		4.78	35
DA005	3#		2.32	35
DA006	1#		5.2	36
DA007	3#		5.2	36
DA008			1.8	18
DA009			1.8	18
DA010	1#		1.7	25
DA011	2#		1.7	25
DA012	3#		1.7	27
DA013	4#		1.7	27
DA014	1# ä 2#		2.8	24
DA015	3# ä 4#		2.5	19.5
DA016			2.8	24
DA017			1.8	25
DA018			2.2	25
DA019	1#		0.5	15
DA020	2#		0.5	15
DA021	3#		0.5	15
DA022	1#	ä ä ҥ	1.38	22
DA023	1#	ä ä ҥ	1.48	22
DA024	2#	ä ä ҥ	1.38	22

$CO(8.8\%)$ä$N_2(7.77\%)$ä$CH_4(22.14\%)$ä$H_2(57.49\%)$ä$O_2(0.4\%)$ä$CnHm(1.8\%)$ 3957.72kcal/Nm^{3}Â

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/	$CO_2(21.2\%)$ä$CO(23.11\%)$ä$N_2(40.3\%)$ä$CH_4(1.29\%)$ä$H_2(0.5\%)$ä$O_2(0.3\%)$
	Â
	CO_2 ä CO ä N_2 ä CH_4 ä H_2 ä O_2 Â 900~2000 Â 826.73kcal/Nm^3 MPa 77.9N/cm^2 % 40 % 4.5 648.9 Â Â
	ä ä 0.55 ä 0.90 ä 1.56 0.196 ä 0.184 ä 0.121 0.4~0.6 Â
	0.1~4.5MPa 0.01MPa Â 0.1MPa 0.02~0.3MPa/ Â
	648.9 B] Â 0.7~0.31m Â ä Â ä ä Â
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/	CO_2(2.0%)、CO(8.8%)、N_2(7.77%)、CH_4(22.14%)、H_2(57.49%)、O_2(0.4%)、CnHm(1.8%)
	CO_2、CO、N_2、CH_4、H_2、O_2、C_nH_m。 900~2000 。 3957.72kcal/Nm^3 MPa 77.9N/cm^2 % 40 % 4.5 648.9 。
	0.55、0.90、1.56 0.196、0.184、0.121 0.4~0.6 。
	0.1~4.5MPa、 0.01MPa。 0.1MPa 0.02~0.3MPa/ 。
	648.9 B] 。 0.7~0.31m 。 。
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sodiumhupochlorite solution

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		MAC 15mg/m^3 OSHA 5ppm,7.5mg/m^3 [ ] ACGIH 5ppm,7.5mg/m^3 LC_{50} HCl 4600mg/m^3 1 IDLH HCl 150mg/m^3		
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	ammonia, ammonia liquefied, ammonia gas		
NH_3	17.03	CAS 7664-41-7	
23003			

-77.7	-33.5	=1 0.82 -79
132.5	MPa 11.40	=1 0.6
kJ/mol	MJ	kPa 506.62 4.7

% 15.7	
% 27.4	MPa 0.580
651	

MAC mg/m³ 30 MAC mg/m³ 20

TVL-TWA OSHA 50ppm 34mg/m³ ACGIH 25ppm 17mg/m³

TLV-STEL ACGIH 35ppm 24mg/m³

LD_{50} 350mg/kg LC_{50} 1390mg/m³ 4

IDLH 360mg/m³

X /

X /

/

2%

5~10min

	21011

	propane			UN 1978	
	C_3H_8	44.10		CAS 74-98-6	
	-187.6B]	(=1)	0.58	(=1)	1.56
	-42.1 B]			53.32 kPa /-44.5 B]	
	96.8B]			4.25 MPa	
	LD50 5800mg/kg( )' 20000mg/kg( )				
	1 ... 10 ...				

	-104 B]		9.5 %		
	450 B]		2.1%		
			/		

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		ethyl alcohol	
	C_2H_6O	46.07	CAS 64-17-5
	32061		

	-114.1	78.3	=1 0.79
	243.1	kPa 6.38	=1 1.59
	kJ/mol 1365.5	MJ	UPa 5.33 19
	12		
	% 3.3		
	% 19.0	MPa	
	363		
	LD_{50} 7060mg/kg 430mg/kg LC_{50} 37620mg/m^3 10		
	7 UN 1170 II 3m/s		

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			Petroleum ether
		CN	32002
		CAS	8032-32-4
	53.32kPa(20 B])		-20 B]
	-73 B]		40~80 B]
	(=1)0.64~0.66		
	(=1)2.50	(%)	1.1~8.7
	280 B]		
	3 2		
		( )	
	LD50 40mg/kg( )		
	15		

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CAS	6848-52-2	UN	1942
			Ammonium nitrate; Ammonium saltpeter
	NH_4NO_3		80.04
pH	5.43(0.1mol/L)		210

^ ~	210^ ~	^ ~	169.6

^ =1~ 1.72

	kJ/mol	MJ	kPa 0.67 25
	%		
	%	MPa	
	LD50 1530mg/kg 2740mg/kg		
	15 15		
	20 UN 1805 II		

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	CH_2O	30.03	CAS 50-00-0
	-92	-19.4	=1 0.82
	137.2	MPa 6.81	=1 1.07
	kJ/mol 2345.0	MJ	kPa 13.33 -57.3

	ˆ ˜ ˁ 50ˆ 37%˜	ˁ
	ˆ %˜ ˁ 7.0	ˁ
	ˆ %˜ ˁ 73.0	ˁ ằ ằ
	ˆ ˜ ˁ 430	

	-42	86	1 1.50
		MPa	1 2.17
	kJ/mol	MJ	kPa 4.4 20
	%		
	%	MPa	
	15 15		
	20 UN 2031 I		

		sulfuric acid	
	H_2SO_4	98.08	CAS 7664-93-9
	81007		
	10.5	330.0	=1 1.83
		MPa	=1 3.4

	kJ/mol	MJ	kPa 0.13 145.8
	%		
	%	MPa	

MAC mg/m^3 2 MAC mg/m^3 1
TVL-TWA ACGIH 1mg/m^3 TLV-STEL ACGIH 3mg/m^3
LD_{50} 2140mg/kg
LC_{50} 510mg/m^3 2 320mg/m^3 2

15 15

20 UN 1830 B

	32052	CAS	108-88-3
		UN	1294
	Methylbenzene Toluene		
	C_7H_9		
	92.14		7
	4.89kPa 30.0		4
	-94.9		110.6

	ˆ =1˜˛ 3.14		
	ˆ =1˜˛ 0.87		

(ᵊᵊ)

	LD50 1364mg/kg( ) LC50		

	33535	CAS	108-38-3
	1,3-	UN	1307
	1,3-xylene m-xylene		
	C_8H_{10}		
	106.17		
	1.33kPa 32		30
	-25.5		139
	=1 3.66 =1 0.88		

	200ppm 500mg/24

	32050	CAS	71-43-2
		UN	1114
	Benzene		
	C_6H_6		
	78.11		
	13.33kPa/26.1		-11
	5.5		80.1
	=1 2.77 =1 0.88		

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	à	acetone	
	C_3H_6O	58.08	CAS 67-64-1
	31025		
	Â		
	à à à à	Â	
	-94.6	56.5	=1 0.80
	235.5	MPa 4.72	=1 2.00
	kJ/mol 1788.7	MJ 1.157	kPa 53.32 39.5
		à Â	

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7 UN 1090 I

	Â Â
	LD_{50} 3530mg/kg 1060mg/kg LC_{50} 1379mg/m^3 1
	Â Â Â Â Â Â

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	LD$_{50}$ 1100mg/kg LC$_{50}$ 15000mg/m^3 0.01%~0.25% 2~4 0.5 10g/m^3 1~4
	15
	15
	20 UN 1779 I

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CAS	7783-20-2	UN	1444
			Ammonium sulfate Mascagnite
	$(NH_4)_2SO_4$		132.13
pH	5.5 0.1mol/L		/
	280		140
	=1 1.77		

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		CAS		ˆ t˜	ˆ t˜
1		/		193.558	7.5
2		/		309.325	2500
3	ˆ 37% ˜	7647-01-0		12.208	7.5
4	ˆ 20% ˜	1336-21-6		21.406	10
5		74-98-6		0.022	10
6		64-17-5		0.039	500
7		8032-32-4		0.033	10
8		7664-38-2		0.075	10
9		50-00-0		0.004	0.5
10		7664-39-3		0.012	1
11		7697-37-2		0.057	7.5
12		7664-93-9		0.129	10
13		108-88-3		0.009	10
14		1330-20-7		0.009	10
15		71-43-2		0.009	10
16		67-64-1		0.004	10

17		64-19-7		0.016	10
18		64-18-6		0.024	10

1 15 m3 à 1 8 m3 à 1 5 m3

3 193.558tÂ

30 170kg 5.1t Ữ 98.895t 205.33t 309.325tÂ

2 Ữ 10m3 Ữ 15t 30% 37% 12.162t Ữ 0.011t Ữ 0.035t 37% 12.208tÂ

Ữ 4 173.4m3 Ữ 30m3 15% 28.239t 20% 21.179t Ữ 0.046t Ữ 0.181t 20% 21.406tÂ

48 8L 3MPa 1.964g/L 0.022tÂ

12 Ữ 0.037t Ữ 0.092t 0.129tÂ

6~11 à 13~18 Ữ Â

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		CAS		ˆ t˜	ˆ t˜
1		74-98-6		0.010	10

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		CAS		ˆ t˜	ˆ t˜
1		/	ΰ	110.100	2500
2		74-98-6		0.012	10

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		CAS		ˆ t˜	ˆ t˜
1		/	ΰ	10.213	2500
2	ˆ 37% ˜	7647-01-0		12.173	7.5
3		7664-93-9		0.092	10
4	ˆ 20% ˜	1336-21-6		0.181	10

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		CAS		ˆ t˜	ˆ t˜
1		/		193.558	7.5
2		/	ΰ	85.017	2500
3	ˆ 20% ˜	1336-21-6		21.179	10

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		CAS		ˆ t˜	ˆ t˜	

1		/	ǚ	103.995	2500	ȁ پ
2	ˆ 37% ˜	7647-01-0		0.035	7.5	
3	ˆ 20% ˜	1336-21-6		0.046	10	
4		64-17-5		0.039	500	
5		8032-32-4		0.033	10	
6		7664-38-2		0.075	10	
7		50-00-0		0.004	0.5	
8		7664-39-3		0.012	1	
9		7697-37-2		0.057	7.5	
10		7664-93-9		0.037	10	
11		108-88-3		0.009	10	
12	Ꞗ	1330-20-7		0.009	10	
13		71-43-2		0.009	10	
14		67-64-1		0.004	10	
15		64-19-7		0.016	10	
16		64-18-6		0.024	10	

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		CAS		ˆ t˜	ˆ t˜
1		/	ǚ	309.325	2500
2	ˆ 37% ˜	7647-01-0		12.208	7.5
3	ˆ 20% ˜	1336-21-6		21.406	10
4		7681-52-9		1.5	5
5		64-17-5		0.039	500
6		8032-32-4		0.033	10
7		6484-52-2		0.010	50
8		7664-38-2		0.075	10
9		50-00-0		0.004	0.5

19		7783-20-2		0.003	10

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5.1t

9		7697-37-2		0.057	7.5	
10		7664-93-9		0.037	10	
11		108-88-3		0.009	10	
12	Ⴆ	1330-20-7		0.009	10	
13		71-43-2		0.009	10	
14		67-64-1		0.004	10	
15		64-19-7		0.016	10	
16		64-18-6		0.024	10	

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1		C30 ˆ ɢ P6˜ + Ⴆ + Ⴆ Â
2		
3		C30 ˆ ɢ P6˜ + Ⴆ

		+ Ⴙ ’ PSC 20mmÂ
4		150mmC25 + + + ˆ P8˜ Â
5	220t/h	ˆ ɢ P6˜

ˆ 2˜

‘ Ữ ä Ữ 7m ä 7m ä 1.8m ’

Ữ 9m ä 3m ä 0.5m ˘ Ữ ˆ

8m ä 5m˜ ˘ 0.2m ’ 220t/h Ữ 12.4m ä

8.05m ä 0.85m ’ 100t/h Ữ 9.8m ä 1.8m ä

0.7m Â ˘ Â

Ⴙ ‘ ʊ 1 1000m3 ˘

ɢ ’ ʊ 1 1000m3 ˘

˘ Â

˘ 1 1#2#3#

ˆ 950m3˜ ˇ 1 4#5# ˆ 950m3˜˜ ᵤ ꟻ ä

˘ ’ 1# ˆ 950m3˜ ä

2#3# ˆ 2600m3˜ ä 4# ˆ 3900m3˜ ä 5# ˆ 3900m3˜˜ ɢ

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3600m3 32m 23m 5m˜ ’ Ⴙ ˘ 7400m3 40m

25m 6.5m+6m 25m 6.5m˜˜ ‰ ΰ

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		654.9m^3 Â ˇ Â 3600m^3 ˘ Ƕ ˘ 7400m^3

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19		2		
20		13		ꟷ ⊢
21		36		ꟷ ⊢ 23ầ 13
22		61		ꟷ ⊢ 16ầ 40ầ 5
23		13		ꟷ ⊢
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			13863466196

			13656348369
			13054811904
			13516340708
			13863466628
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			13706389690
			15263485327
			13455893077
			13563413316
			13506348688
			13625431174
			13561710577
			13863408419
			13563413358
			13561716835
			15006345383
			13963487894
			13963463496
			13563466090
			13563475386
			15263426599
			13963421398
			13676346692
			13563466673
			13468250659
			13863408867
			13863461104
			19863412175
			15866340126
			15163422658
			18763416978
			15263463599
			15163468349
			13963463188
			13863428508
			18663447998
			13516349138
			13863466196
			13863411239

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		ˆ ˜	15263485327
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			13563418153
		′	13563479871
			13863487830
			13616347127
			13863463533
		″	15863400570
			18263457010
			13561710888
			15263478776
			13676349630
			15263485327
		′	15263478769
			15263409152
			13561705797
			13616347127
			13563438164
			13563460816
			19863412175
			13455494149

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		ˆ ˜	15725897603
		ˆ ˜	13706389690
		˝	19819401163
			13706379690
			13863401361
			15006836302
			13906341487
			13863426070
			13468267756
			13863409993
			13563415002
			13863408214
			15166348180
			15163478458
			13863403976
			13863409993
		˝	13563475386
			15266343303
			13863409993
			15163478458
			13706389690
			13863409993
		˝	19819401163
			13706389690
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		ˆ ˜	18263480788
		ˆ ˜	18663462586
			13967440446
			13863408419
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			18763416978
		ε	15660471966
			15237841078

			13563405390
			13561700881
			13963401894
			13706385210
			18263436636
			16212133456
		ε	15263455168
			15863407885
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ΰ ȉ			18663462586
			13963477566
			13676343300
			15763411851

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		´ ˆ ˜	18263439261
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			13676349515
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			15698101896
Ƕ			13863457846
			13963445933
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			13863445044
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			18763436533
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ΰ ȉ			15263463372
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4		0531-77996925
5	˩	0531-76110933
6		0531-77996931
7		0531-76114187
8	ˊ	0531-76287977
9		110
10		0531-76260279
11		13625431174
12		15666344861

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1	2008.10.18				4 14
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3	2013.10.8		[redacted]	ȁ	10

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2		
3		“4 ”
4		20000m³/d 150m³/d 14400m³/d 20000m³/d 3600m³ 7400m³ 1080m³ 1000m³ 950m³ 1#2#3# 950m³ 4#5#
5		
6		2 110KV Q

7		Â ằ ằ ằ ΰ Â
8	ằ	34400m³/d 20150m³/d 3900m³ ằ 11000m³ Â

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50cm 0.196m² Â

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Q_G		kg/s	34.27kg/s
P	Ⱶ	kPa	112.21
P_0	Ⱶ	kPa	99.21
A		m^2	0.196
/		/	
M		kg/mol	0.0293
T_G			30
k			1.37
	AFTOX *		

ʿ EIAPro " " SLAB ʾ ä ê SLAB Ì " G Ⱶ ˘ ˘ ˘ " SLAB Â ˘ SLAB ä AFTOX ˘ ڧ ʾ AFTOX ڧ ˘ AFTOX Â

L CO 23.11% 1.29kg/Nm³ CO 22.39% Â

50 ˘ 34.27kg/s CO 34.27×22.39% =7.67kg/s 10min ˆ 10min ˜˜ CO 4602kg Â

ĩ ê Ì HJ169-2018˜ ˘ ˆ F ä 1.5m/s ä 25 ä 50% ΰ ˆ E ä 1.4m/s ä 20 ä 55%˜ AFTOX 5~120 Â

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	CO	
100	5.90E+03	5.76E+03
200	4.74E+03	3.24E+03

300	3.09E+03	1.91E+03
400	2.12E+03	1.26E+03
500	1.54E+03	8.98E+02
600	1.17E+03	6.76E+02
700	9.25E+02	5.29E+02
800	7.51E+02	4.28E+02
900	6.23E+02	3.54E+02
1000	5.26E+02	2.67E+02
1500	2.76E+02	1.29E+02
2000	1.89E+02	9.27E+01
2500	1.06E+02	4.06E+01
3000	1.11E+02	5.38E+00
4000	3.17E+00	1.29E+01
5000	9.51E-03	1.35E+01
6000	2.19E+01	1.65E+00
7000	2.51E+01	9.37E-02
8000	9.44E-01	1.04E+00
9000	1.26E-03	3.62E+00
10000	6.36E-08	3.41E+00
11000	5.64E-04	1.51E+00

-1ˆ 380mg/m^3˜ ằ -2

ˆ 95mg/m^3˜ ف 7Â

-1ˆ 380mg/m^3˜ ằ -2

ˆ 95mg/m^3˜ ف 8Â

4 6 C _"JB—— —, A 6] § p 4

4 Á { +U f 6 n?÷"JB— — , A 6] § p 4

2˜

˘ ˘ ῐ

ê Ȉ HJ169-2018˜ E ˘

50cm˘ 0.196m^{2}Â

EIAPro“ ” “ ” ê

Ȉ HJ169-2018˜ F ˜ ˘ ῐ

63Â

>ž E¢&¿'š"J"úMh r A×1Í5 Ò "} q >ž

Q_G		kg/s	16.70kg/s
P	Ͱ	kPa	102.21
P_0	Ͱ	kPa	99.21
A		m^2	0.196
/		/	
M		kg/mol	0.0306
T_G			30
k			1.37
	AFTOX *		

˓ EIAPro“ ” SLAB ’ ä ê SLAB

Ȉ “ G Ͱ ˘ ˘

˘ ” SLAB Â

˘ SLAB ä AFTOX ˘ ق

’ AFTOX ق ˘

AFTOX **Â**

ᴸ CO 53.80% 1.27kg/Nm^3

CO 52.95%Â

52 ˘ 16.70kg/s CO 16.70×

52.95%=8.84kg/s 10min ˆ 10min

˜˘ CO 5304kgÂ

ῐ ê Ȉ HJ169-2018˜ ˘

ΰ AFTOX

5~120 Â

˘ CO 64Â

>ž E¢&¿'š"J"ú%E AO G C BD /ñ 6]#‰ Ü < 9 ´ ‹ ƒ Æ µ

	CO	
100	1.41E+04	1.03E+04
200	7.13E+03	4.38E+03
300	4.11E+03	2.40E+03
400	2.68E+03	1.54E+03
500	1.90E+03	1.08E+03
600	1.42E+03	8.03E+02
700	1.11E+03	6.25E+02
800	8.93E+02	5.02E+02
900	7.37E+02	4.14E+02
1000	6.20E+02	3.12E+02
1500	3.22E+02	1.50E+02
2000	2.20E+02	1.07E+02
2500	1.23E+02	4.71E+01
3000	1.28E+02	6.22E+00
4000	3.67E+00	1.50E+01
5000	1.10E-02	1.56E+01
6000	2.53E+01	1.91E+00
7000	2.90E+01	1.08E-01
8000	1.09E+00	1.20E+00
9000	1.46E-03	4.18E+00
10000	7.35E-08	3.94E+00
11000	6.51E-04	1.74E+00

-1ˆ 380mg/m^3˜ ằ -2

ˆ 95mg/m^3˜ ف 9 Â

-1ˆ 380mg/m^3˜ ằ -2

ˆ 95mg/m^3˜ ف 10 Â

4 6 C _"JB— — , A 6] § p 4

4 Á { +U f 6 n?÷"JB— — , A 6] § p

ˆ 2˜

ˆ RiskSystem˜ Ɛ ڧ Â

1˜

Ữ 9 m^3 115.849t

826.73kcal/Nm^3 2682707J/kgÂ

65 ˇ 11Â

>ž Q &¿'š"J(<&îNº#•5 Ò

1	Ɛ TNT	kg	3712.97
2	`	m	22.1
3		m	61.2
4		m	109.7
5		m	65.0

2˜

Ữ 4 m^3 46.173t

1635.54kcal/Nm^3 5390843J/kgÂ

m 66 ˇ 12Â

>ž E¢&¿'š"J(<&îNº#•5 Ò

1	Ɛ TNT	kg	2973.72
2	`	m	20.4
3 Gý "-´		m	56.8

4 Q &¿'š"J(<&îNº#•5 Ò 4

4 E¢&¿'š"J(<&îNº#•5 Ò 4

ˆ 3˜

ˉ Ḟ ˇ 1 10m³ Ữ ˘ 30%Â

Ữ ˘ ’ Ữ

67 Â

>ž - G® Þ5† ¥>ž

Ữ	
	2m
	10m³
	50mm Ữ ˜
	7m*7m*1.8m

ĩ ê Ȉ HJ169-2018˜ E ˘

Ữ ˘ 50mm 0.001963m³Â

EIAPro“ ” “ ” ê

Ȉ HJ169-2018˜ F ˜ ˘ ĩ

68 Â

>ž - G®"ú%EH A×1Í ø ¦>ž

Q_L		kg/s	7.95
C_d			0.65
A		m^2	0.001963
P	: Ḟ	kPa	99.21
P_0	Ḟ	kPa	99.21
G	Ḟ	m/s^2	9.81
h		m	1.5
ρ		kg/m^3	1.149 10^3

10min ˆ 10min ˜˜

˘ 4770kgÂ

EIAPro“ ” “ ” ˇ

˘ 49m² ˜ Â

69 Â

>ž Z0 "JB— — , A- G®:î A×1Í5 Ò

	ˆ kg/s˜	30min ˆ kg˜
	2.75E-03	4.95

	2.56E-03	4.61
	AFTOX	

ŭ̋ AFTOX

5~120 Â

˘ HCl 70 Â

>ž - G®"ú%E AO G C BD /ñ 6]#‰ Ü < 9 ´ ‹ ƒ Æ µ

	HCl	
50	3.24E+01	1.23E+01
100	1.17E+01	4.41E+00
150	6.11E+00	2.32E+00
200	3.83E+00	1.46E+00
250	2.65E+00	1.01E+00
300	1.96E+00	7.50E-01
350	1.52E+00	5.82E-01
400	1.22E+00	4.67E-01
450	1.00E+00	3.84E-01
500	8.39E-01	3.23E-01
600	6.19E-01	2.38E-01
700	4.78E-01	1.85E-01
800	3.82E-01	1.48E-01
900	3.14E-01	1.21E-01
1000	2.47E-01	9.12E-02
1500	1.35E-01	4.36E-02
2000	8.76E-02	3.12E-02
2500	6.23E-02	1.37E-02
3000	2.50E-03	1.81E-03
4000	5.77E-04	4.34E-03
5000	2.40E-02	4.52E-03

-1ˆ 150mg/m^3˜ ä -2

ˆ 33mg/m^3˜ ف 13 Â

-1ˆ 150mg/m^3˜ ä -2

ˆ 33mg/m^3˜ ف 14 Â

4 6 C _"JB— — , A 6] § p 4

4 Á { +U f 6 n?÷"JB— — , A 6] § p 4

ˆ 4˜

꜋ Ϝ ˇ 1 10m^3 Ữ ˘ 30%Â

Ữ ˘ ’ Ữ

71Â

>ž #è.ç Þ5† ¥>ž

Ữ	
	2m
	10m^3
	50mm Ữ ˜
	7m*7m*1.8m

ῗ ê Ἒ HJ169-2018˜ E ˘

Ữ ˘ 50mm 0.001963m^{3}Â

EIAPro“ ” “ ” ê

Ἒ HJ169-2018˜ F ˜ ˘ ῗ

72Â

>ž #è.ç"ú%EH A×1Í ø ¦>ž

Q_L		kg/s	9.46
C_d			0.65
A		m^2	0.001963
P	: Ϝ	kPa	99.21
P_0	Ϝ	kPa	99.21
G	Ϝ ˙	m/s^2	

>ž "^"j Þ5† ¥>ž

Ũ	
	5m
	80m^3
	4.6m
	20mm Ũ
	9.8m*1.8m*0.7m

ĭ ê Ì HJ169-2018 E

Ũ 20mm 0.000314m^{3}Â

EIAPro“ ” “ ” ê

Ì HJ169-2018 F ĭ

74Â

>ž "^"j"ú%EH A×1Í ø ¦>ž

Q_L		kg/s	1.59
C_d			0.65
A		m^2	0.000314
P	:	Pa	99.21
P_0		Pa	99.21
G		m/s^2	9.81
h		m	3.5
!		kg/m^3	941.3

10min 10min

954kgÂ

EIAPro“ ” “ ”

17.64m^2 Â

75Â

>ž Z0 "JB— — , A"^"j:î A×1Í5 Ò

	kg/s	30min kg
	1.23E-02	22.14
	1.53E-02	27.54
	AFTOX	

ŭ AFTOX

5~120 Â

˘ NH_3 76Â

>ž "^"j "ú%E AO G C BD /ñ 6]#‰ Ü < 9 ´ ‹ ƒ Æ µ

	NH_3	
50	1.45E+02	7.37E+01
100	5.23E+01	2.64E+01
150	2.74E+01	1.39E+01
200	1.72E+01	8.72E+00
250	1.19E+01	6.06E+00
300	8.80E+00	4.49E+00
350	6.81E+00	3.48E+00
400	5.46E+00	2.79E+00
450	4.48E+00	2.30E+00
500	3.76E+00	1.93E+00
600	2.77E+00	1.43E+00
700	2.14E+00	1.10E+00
800	1.71E+00	8.84E-01
900	1.41E+00	7.27E-01
1000	1.11E+00	5.46E-01
1500	6.07E-01	2.61E-01
2000	3.93E-01	1.87E-01
2500	2.79E-01	8.18E-02
3000	1.12E-02	1.08E-02
4000	2.59E-03	2.59E-02
5000	1.08E-01	2.71E-02

-1ˆ 770mg/m^3˜ ä -2

ˆ 110mg/m^3˜ ف 15Â

-1ˆ 770mg/m^3˜ ä -2

ˆ 110mg/m^3˜ ف 16Â

4 6 C _"JB— — , A 6] § p 4

4 Á { +U f 6 n?÷"JB— — , A 6] § p

“ 4.3.1

50m

2m

CO_2 CO

5000m^3/min 1.29kg/Nm^3

98.35kg/s CO

98.35×22.39%=22.02kg/s 5min CO 6606kg

HJ169-2018

AFTOX

5~120

CO 77

	CO	
100	0.00E+00	0.00E+00
200	0.00E+00	0.00E+00
300	4.46E-36	1.10E-40
400	6.80E-22	9.66E-25

500	1.40E-14	1.51E-16
600	2.94E-10	1.06E-11
700	1.82E-07	1.43E-08
800	1.51E-05	1.97E-06
900	3.64E-04	9.39E-07
1000	3.89E-03	9.68E-12
1500	2.12E-13	7.53E-01
2000	5.21E+00	1.22E-01
2500	7.83E-01	5.79E+00
3000	1.04E+01	1.09E-09
4000	2.45E-04	0.00E+00
5000	1.05E-29	3.05E+01
6000	0.00E+00	1.10E-10
7000	5.33E+01	7.41E-32
8000	7.18E-05	0.00E+00
9000	1.81E-17	5.14E-02
10000	0.00E+00	4.50E+01
11000	0.00E+00	5.20E-03

ầ -1

ˆ 380mg/m^3˜ ầ -2ˆ 95mg/m^3˜ ق Â

“ 4.3.4 ”Â

"— "ñ*<Aô óM”!™ nF >,

ᷓ ầ ˘ ’

ᷓ 20000m^3/d ˘ ᷓ 150m^3/d ’

˘ ǚ Ƥ ˇ Ꮒ

˘ ᵳ 14400m^3/d ầ Ꮒ ᵳ 20000m^3/d

ầ Ꮒ ’ 3600m^3 ầ Ꮒ

7400m^3 ˇ ˘ 1000m^3 ầ 1000m^3

ầ 950m^{3}1#2#3# ầ 950m^{3}4#5# ˘

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34400m³/d 20150m³/d

3900m³ ằ

11000m³ Â

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H t)å ¹O LŸ(ŸC^,º Ÿ ™FJ º =#¿)å ¹O LŸLh Ý D Ê [à ó = Ê [

Cz$Æ û ë < Æ

ằ ằ 78 Â

>ž O LŸ(ŸC^,º Ÿ ™FJ º =#¿)å ¹O LŸLh Ý D Ê [à ó = Ê [Cz$Æ û ë

		24		
		24	119	
		220t/h 100t/h		

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)æ ?)å ¹O LŸLh Ý Â Ê [à ó $D < Æ

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“ 3.6 ’ ” Â

ˇ 90t/h

Ữ ä 40t/h Ữ ˇ

Ữ ä Ữ ’ 90t/h ä

40t/h Ữ ˇ Â

ê Ȉ HJ610-2016˜ ȉ

80 Â

>ž f A"j"— Lh$M < p ø'•>ž

			ä	Mb ≥ 6.0m K ≤ 1 10-7cm/s ȉ GB18598
	-			
		-		Mb ≥ 1.5m K ≤ 1 10-7cm/s ȉ GB16889
	-			

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	-			

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Ȉ HJ610-2016˜ Â

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90t/h ầ 40t/h Ữ	
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90t/h ầ 40t/h Ữ ˗	
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º)å ¹O LŸLh Ý Â Ê [à ó,º Ô óA× H

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7 P0·)å ¹ Á ,O LŸ <4Ý#w0A

17 Â

4 7 P0·)å ¹ Á ,O LŸ <4Ý#w0A 4

0·]"J)å ¹ Á ,O LŸ <4Ý

#¿"JO LŸ(ŸC^ ¦H D j+,H " r ´ µ

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” ΰ̋ ˆ

˜˘ ˆ ˘

˜ A Ợ

ˆ 1˜ ΰ̋ ˘ ˘ QÂ

ˆ 2˜ ˘ ˆ 1˜ ˓

$$Q=\frac{w_1}{W_1}+\frac{w_2}{W_2}+\quad+\frac{w_n}{W_n}$$ ˆ 1˜

˓ $w_1, w_2, \ldots, w_n$ ˘ ť

$W_1, W_2, \ldots, W_n$ ˘ tÂ

˘ Q 4 ˓

ˆ 1˜ Q 1˘ Q0 ˘ ’

ˆ 2˜ 1 ≤ Q 10˘ Q1 ’

ˆ 3˜ 10 ≤ Q 100˘ Q2 ’

ˆ 4˜ Q ≥ 100˘ Q3 Â

ˇ 83 Â

>ž 7 P #¿"JO LŸ(ŸC^ û ë

		CAS	ˆ t˜	ˆ t˜
1		/	193.558	7.5
2		/	309.325	2500
3	ˆ 37% ˜	7647-01-0	12.208	7.5
4	ˆ 20% ˜	1336-21-6	21.406	10
5		74-98-6	0.022	10
6		64-17-5	0.039	500
7		8032-32-4	0.033	10
8		7664-38-2	0.075	10

>ž Þ Ñ ¸#¿"JO LŸ(ŸC^ û ë

		CAS	ˆ t˜	ˆ t˜
1		/	10.213	2500
2	ˆ 37% ˜	7647-01-0	12.173	7.5
3		7664-93-9	0.092	10
4	ˆ 20% ˜	1336-21-6	0.181	10

ˆ 1˜ ˘ Q=1.65˜ Q1

+U Ý 8°Eý0A a ?O LŸ 8° ÂAô = û ë

89 ᵒᵒ ˇ , ˘

30 Â

>ž 7 P+U Ý 8°Eý0AAú f

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ȁ ű ª	5/	105	4 ˘ 2 ˘ 3 ˘ 5 ˙ ˘ 7
ˇ ᵇ	5/	0	/
ű /	0	0	/
ʿ a ≥ 300 ˘ ʜ ʜˆ p˜ ≥ 10.0MPǎ GB30000.2 GB30000.13 ʾ b ȇᵒᵒ ᵒᵒ Ȉ			

˘ 30 Â

]"J)å ¹O LŸLh Ý à ó 0·]"J)å ¹ Á , +U û ë

90 ű ʾ Â

>ž 7 P]"J)å ¹O LŸLh Ý à ó D0·]"J)å ¹ Á , +U û ëAú f

	ɰ		
	ˆ 1˜ ű A ʾ ˆ 2˜ ʾ ˘ ˆ ȁ ȁ ȁ ȁ ȁ ȁ ˜	0	0
		25	
,	ű	0	0
	ű	25	
3 ,		20	0
		15	
		10	
		0	

˘ 0 Â

7 P+U Ý 8°Eý0A D]"J)å ¹O LŸ Ý l"j ©

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˙ ˘ ᵒᵒ ˘ 91 4

Â

>ž 7 P+U Ý 8°Eý0A D)å ¹O LŸ Ý l"j ©2± Á H <

ᅇ	ᅇ
M 25	M1
25≤ M 45	M2
45 ≤ M 65	M3
M ≥ 65	M4

89 ˇ 90 ˘ ᅇ M 30

91 ˘ ᅇ M2 Â

]"J)å ¹O LŸ ‰ … U0A Ü ´ µAú f

Â 5

500 1 ǎ 2 ˇ

3 ˘ E1 ǎ E2 ˇ E3 ˘ 92 Â

>ž]"J)å ¹O LŸ ‰ … U0A Ü2± Á H <

1 E1	5 ǎ ǎ ǎ ǎ ǎ ǎ ǎ 5 ˘ 500 1000 ˘ 5 ǚ ǎ ǎ
2 E2	5 ǎ ǎ ǎ ǎ ǎ ǎ ǎ 1 ǎ 5 ˘ 500 500 ǎ 1000
3 E3	5 ǎ ǎ ǎ ǎ ǎ ǎ ǎ 1 ˘ 500 500

5 ˘ 500 8230 ˘ 5 102771

Â ˘ E1Â

0·]"J)å ¹ Á ,O LŸ1•4Ý .¤ Ð

Â

>ž 0·)å ¹ Á ,O LŸ <4Ý>ž

ˆ E	ˆ Q	ᅇ ˆ M			
		M1	M2	M3	M4
1 ˆ E1	"4 10 Q1				
	10≤Q 100 Q2				
	4 • ˆ Q3				
2 ˆ E2	"4 10 Q1				
	"4 100 Q2				
	4 • ˆ Q3				

3 ˆ E3˜	”4̧ 10˜ Q1˜				
	”4̧ 100˜ Q2˜				
	4 • ˆ Q3˜				

˘ “ - ˆ Q2-M2-E1˜ ” Â

0· "j)å ¹ Á ,O LŸ <4Ý

#¿"jO LŸ(ŸC^ ¦H D j+,H " r ´ µ

Q 7.2.1 ˆ 1˜ Â

˘ Q 4 ‘

ˆ 1˜ Q̧ 1˜ Q0 ˘ ’

ˆ 2˜ 1 ≤ Q̧ 10˜ Q1 ’

ˆ 3˜ 10 ≤ Q 100˜ Q2 ’

ˆ 4˜ Q ≥ 100˜ Q3 Â

ˇ 94 Â

>ž 7 P#¿"jO LŸ(ŸC^,º Ž ^H Â j+,H

CAS

	2˜		
		8	
	1˜ 2˜	0	0
		8	
		0	0
	1˜ 2˜ 3˜	6	
	1˜ 2˜ ʻP ʻP 3˜ 4˜	12	
	1˜ 2˜	0	0
		10	
3 ,		8	0
		6	
		4	
		0	
	GB50483ä GB50160ä GB50351 äGB50747 äSH3015		

8 Â

7 P+U Ý 8°Eý0A D"j)å ¹O LŸ Ý l"j ©

7.2.2.3 Â

M 38ʼ 7.2.2.3

M2 Â

"j)å ¹O LŸ ‰ … U0A Ü ´ µAú f

1 ä 2 3̃ E1 ä E2

E3 100 Â

>ž "j)å ¹O LŸ ‰ … U0A Ü2± Á H <

1̂ E1˜	ˆ 1˜ ȁ ⌈ ȁ 10 ˛ ȁ ˆ ȁ ʜ ΰ ‰ ˜ʾ ˛ ΰ ʾ ˆ 2˜ 24 ˆ ˜ ΰ
2̂ E2˜	ˆ 1˜ ȁ ⌈ ȁ 10 ˽ ˵ ˇ ˘ ˘ ˇ ˛˛ ˘ ˛˛ ˘ ˘ ˘ ˘ ˘ ˇ ˘ ˇ ˘ ˘ ˇ ˘ ˘ ˇ ˛˛ ˘ ˇ ˘ ȁ ˇ ˘ ˛ ˘ ʎ ʾˆ 2˜ ȁ ⌈ ȁ 10 ΰ ʾˆ 3˜ ɢ ȁ ȁ
3̂ E3˜	ΰ 1 ˇ 2 ʼ
˛	‰

bÅ'•À0, !ȁ byRD ÷ṅ1rj ƒ • O0; ñ˘A!p6 E3Â

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Lz 4 7 P f*< ƒ5¤ 4

Lz 4 7 P ©M˜ 95¤ 4

Lz 4 7 P ž Eï)å ¹O LŸ ‰ 4

Lz 4 M "—"j lLü È t/p E 4

Lz 4 M "j È t #w5 99 * 4

Lz 4 7 P È"J1ˆ ƒ5¤ 4

Lz 4 ¸ p < pLh$M 4

Lz 4 ¸ p 2 È/p E 4

Lz ,)æ(ìAú f Û € = ~ E?÷

Lz , "jAî %A÷

Lz , 7g.¡ x L d …Aä

Lz , 7 P ¿ ž+U Ý1×*< l Ü =)å ¹O LŸ1×*< l Ü

Lz , 7 P Ê [(ŸCz'•()

Lz , 7 PLÆ Ù È Â"ñ*< û ë = Ê [/Aã =%J4ùAæ ‹ '•()

Lz , 7 P § Õ1×*<A× H

Lz , § Õ Ž :5¤ > B