

LAMPIRAN 1

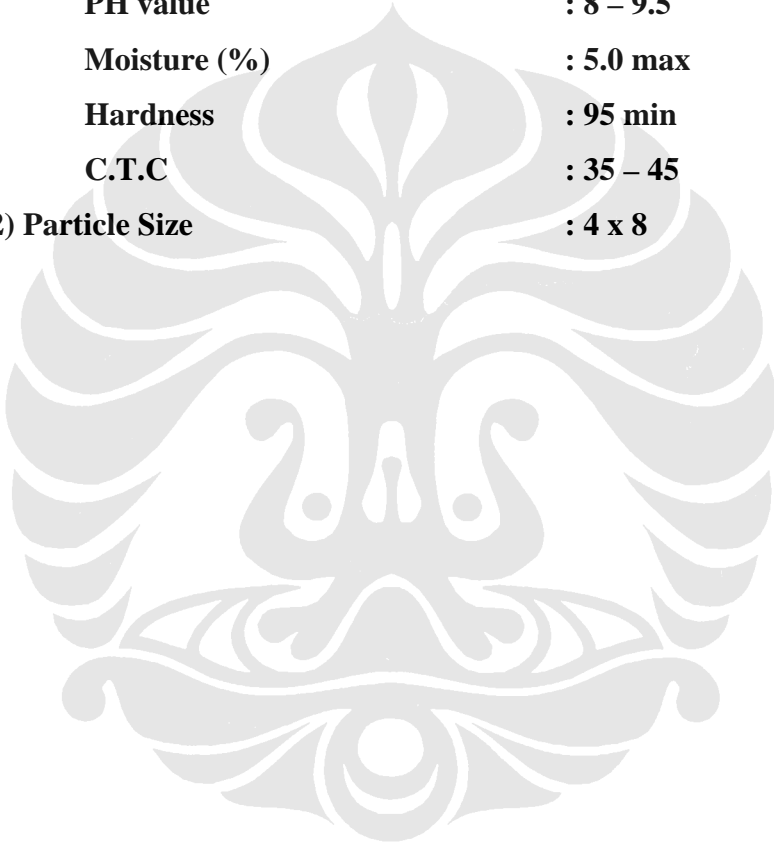
SPEKIFIKASI KARBON AKTIF

1) Spesifikasi

Iodine number (mg/gram)	: 750 -900
ASH (%)	: 2.0 – 3.0
BULK DENSITY (g/m³)	: 0.5 – 0.54
PH value	: 8 – 9.5
Moisture (%)	: 5.0 max
Hardness	: 95 min
C.T.C	: 35 – 45

2) Particle Size

: 4 x 8



LAMPIRAN 2

TABEL TERMODINAMIK PROPERTI METANOL

TABLE 2-232 Saturated Ammonia*

T, K	P, bar	v_f , m ³ /kg	v_g , m ³ /kg	h_f , kJ/kg	h_g , kJ/kg	s_f , kJ/(kg·K)	s_g , kJ/(kg·K)	$c_{p,f}$, kJ/(kg·K)	μ_f , 10 ⁻⁴ Pa·s	k_f , W/(m·K)
195.5 ^a	0.0608	1.327-3	15.648	-1110.1	380.1	4.203	11.827	4.73	4.25	0.715
200	0.0865	1.372-3	11.237	-1088.8	385.5	4.311	11.698	4.61	4.07	0.709
210	0.1775	1.394-3	5.729	-1044.1	406.7	4.529	11.438	4.38	3.69	0.685
220	0.3381	1.417-3	3.135	-1000.6	424.1	4.731	11.207	4.35	3.34	0.661
230	0.6044	1.442-3	1.822	-957.0	440.7	4.925	11.002	4.38	3.02	0.638
240	1.0226	1.468-3	1.115	-912.9	456.2	5.113	10.817	4.43	2.73	0.615
250	1.6496	1.495-3	0.712	-868.2	470.6	5.294	10.650	4.48	2.45	0.592
260	2.5529	1.524-3	0.472	-823.1	483.8	5.471	10.498	4.54	2.20	0.569
270	3.8100	1.551-3	0.324	-777.3	495.6	5.643	10.358	4.60	1.97	0.546
280	5.5077	1.589-3	0.228	-730.9	506.0	5.811	10.228	4.66	1.76	0.523
290	7.741	1.626-3	0.165	-683.8	514.7	5.975	10.108	4.73	1.58	0.500
300	10.61	1.666-3	0.121	-636.0	521.5	6.135	9.994	4.82	1.41	0.477
310	14.24	1.710-3	0.091	-587.2	526.1	6.293	9.885	4.91	1.26	0.454
320	18.72	1.760-3	0.069	-537.5	528.2	6.448	9.779	5.02	1.13	0.431
330	24.20	1.815-3	0.053	-486.7	527.5	6.602	9.675	5.17	1.02	0.408
340	30.79	1.878-3	0.0410	-434.3	523.3	6.755	9.571	5.37	0.92	0.385
350	38.64	1.952-3	0.0319	-380.0	515.1	6.908	9.465	5.64	0.83	0.361
360	47.90	2.039-3	0.0249	-323.2	501.8	7.063	9.354	6.04	0.75	0.337
370	58.74	2.148-3	0.0194	-262.6	481.9	7.222	9.235	6.68	0.69	0.313
380	71.35	2.291-3	0.0149	-196.5	452.7	7.391	9.100	7.80	0.61	0.286
390	85.98	2.499-3	0.0113	-120.9	408.1	7.578	8.935	10.3	0.50	0.254
400	103.0	2.882-3	0.0077	-23.5	329.0	7.813	8.694	21.	0.39	0.21
405.4 ^c	113.0	4.255-3	0.0043	142.7	142.7	8.216	8.216	∞	0.25	∞

*P, v, h, and s values condensed from *ASHRAE Handbook, 1981: Fundamentals*. Copyright 1981 by the American Society of Heating, Refrigerating and Air Conditioning Engineers, Inc., and reproduced by permission of the copyright owner. c_p , μ , and k values are interpolated and converted from *Thermophysical Properties of Refrigerants*, ASHRAE, New York, 1976. t = triple point; c = critical point. The notation 1.327-3 signifies 1.327×10^{-3} . At 195.5 K, the viscosity of the saturated liquid is 4.25×10^{-4} Pa·s.

Most recent tabulations of ammonia properties are based upon the extensive tabulation to 5000 bar, 750 K of Haar, L. and J. S. Gallagher, *J. Phys. Chem. Ref. Data*, 7, 3 (1978): 635-792, which does, however, neglect dissociation. For tables to 70,000 psia, 920°F, see Stewart, R. B., R. T. Jacobsen, et al., *Thermodynamic Properties of Refrigerants*, ASHRAE, Atlanta, GA, 1996 (521 pp.). A chart in fps units corresponding with these tables appears on page 17.34 of the *ASHRAE 1989 Fundamentals Handbook*.

Simmons, A. L., C. E. Miller III, et al., *Tables and Charts of Equilibrium Thermodynamic Properties of Ammonia for Temperatures from 500 to 50000 K*, NASA SP 3099, 1976 (255 pp.), tabulates ρ , h , s , c_p , c_v , Z , and so on, from 0.01 to 400 bar and also 18 species of decomposition products.

The 1993 *ASHRAE Handbook—Fundamentals* (SI ed.) gives material for integral degrees Celsius with temperatures on the ITS 90 scale for saturation temperatures from -77.66 to 132.22 °C. The same diagram reproduced here appears in that source.

Notation

c_p = specific heat
 e = specific internal energy
 h = enthalpy
 k = thermal conductivity
 p = pressure
 s = specific entropy
 t = temperature
 T = absolute temperature
 u = specific internal energy
 μ = viscosity
 v = specific volume
 f = subscript denoting saturated liquid
 g = subscript denoting saturated vapor

Sumber: Perry's Chemical Engineers Handbook Seventh Edition, International Edition.

LAMPIRAN 3

PROPERTIES OF ENGINE OIL

$T, ^\circ\text{C}$	$\rho, \text{kg/m}^3$	$\mu, \text{Pa} \cdot \text{s}$	$\nu, \text{m}^2/\text{s}$	$c_p, \text{kJ}/(\text{kg} \cdot \text{K})$	$k, \text{W}/(\text{m} \cdot \text{K})$	Pr
0	898	38.3	42.7	1.788	14.7	46,540
15	889	10.6	12.0	1.845	14.5	13,530
30	881	36.9	41.9	1.905	14.3	4,912
45	872	15.3	17.5	1.969	14.1	2,130
60	863	73.2	84.8	2.035	14.0	1,065
75	855	39.4	46.1	2.101	13.8	598
100	840	17.2	20.5	2.214	13.6	280
125	826	91.5	11.1	2.328	13.4	159
150	811	56.4	69.5	2.440	13.2	104

Sumber: Convective Heat and Mass Transfer Third edition, International Editions.

LAMPIRAN 4

TABEL PANAS SPESIFIK AIR

Properties of common liquids, solids, and foods							
(a) Liquids							
Substance	Boiling data at 1 atm		Freezing data		Liquid properties		
	Normal boiling point, °C	Latent heat of vaporization, h_{fg} kJ/kg	Freezing point, °C	Latent heat of fusion, h_f kJ/kg	Temp., °C	Density, ρ kg/m ³	Specific heat, C_p kJ/kg · °C
Ammonia	-33.3	1357	-77.7	322.4	-33.3	682	4.43
					-20	665	4.52
					0	639	4.60
					25	602	4.80
Argon	-185.9	161.6	-189.3	28	-185.6	1394	1.14
Benzene	80.2	394	5.5	126	20	879	1.72
Brine (20% sodium chloride by mass)	103.9	—	-17.4	—	20	1150	3.11
<i>n</i> -Butane	-0.5	385.2	-138.5	80.3	-0.5	601	2.31
Carbon dioxide	-78.4*	230.5 (at 0°C)	-56.6	—	0	298	0.59
Ethanol	78.2	838.3	-114.2	109	25	783	2.46
Ethyl alcohol	78.6	855	-156	108	20	789	2.84
Ethylene glycol	198.1	800.1	-10.8	181.1	20	1109	2.84
Glycerine	179.9	974	18.9	200.6	20	1261	2.32
Helium	-268.9	22.8	—	—	-268.9	146.2	22.8
Hydrogen	-252.8	445.7	-259.2	59.5	-252.8	70.7	10.0
Isobutane	-11.7	367.1	-160	105.7	-11.7	593.8	2.28
Kerosene	204–293	251	-24.9	—	20	820	2.00
Mercury	356.7	294.7	-38.9	11.4	25	15660	0.139
Methane	-161.5	510.4	-182.2	58.4	-161.5	423	3.49
					-100	301	5.79
Methanol	64.5	1100	-97.7	99.2	25	787	2.55
Nitrogen	-195.8	198.6	-210	25.3	-195.8	809	2.06
					-160	596	2.97
Octane	124.8	306.3	-57.5	180.7	20	703	2.10
Oil (light)	—	—	—	—	25	910	1.80
Oxygen	-183	212.7	-218.8	13.7	-183	1141	1.71
Petroleum	—	230–384	—	—	20	640	2.0
Propane	-42.1	427.8	-187.7	80.0	-42.1	581	2.25
					0	529	2.53
					50	449	3.13
Refrigerant-134a	-26.1	216.8	-96.6	—	-50	1443	1.23
					-26.1	1374	1.27
					0	1294	1.34
					25	1206	1.42
Water	100	2257	0.0	333.7	0	1000	4.23
					25	997	4.18
					50	988	4.18
					75	975	4.19
					100	958	4.22

*Sublimation temperature. (At pressures below the triple-point pressure of 518 kPa, carbon dioxide exists as a solid or gas. Also, the freezing-point temperature of carbon dioxide is the triple-point temperature of -56.5°C.)

Sumber: Thermodynamics an engineering approach fourth edition, International Editions.

LAMPIRAN 5

TABEL TEKINAN NON-VAKUM

cmHg (gauge)	inHg (gauge)	Pa (absolut)	kPa (absolut)
0	0	101325	101.325
0.2	0.0787	101591.6	101.5916
0.4	0.1574	101858.3	101.8583
0.6	0.2362	102124.9	102.1249
0.8	0.3149	102391.6	102.3916
1	0.3937	102658.2	102.6582

Contoh :

$$1 \text{ cmHg} = 0.3937 \text{ inHg}$$

$$1 \text{ atm} = 101325 \text{ Pa}$$

$$1 \text{ cmHg} = 1333.22 \text{ Pa}$$

$$1 \text{ cmHg} = \dots\dots\dots\text{Pa}$$

$$= (1 \times 1333.22) + 101325$$

$$= 102658.2 \text{ Pa}$$

$$= 102.6582 \text{ kPa}$$

LAMPIRAN 6

TABEL TEKANAN VAKUM

cmHg (gauge)	inHg (gauge)	Pa (absolut)	kPa (absolut)
-76	30	0	0
-60	-23.622	21331.56	21.33156
-50	-19.685	34663.8	34.6638
-40	-15.748	47996.04	47.99604
-30	-11.811	61328.28	61.32828
-20	-7.874	74660.52	74.66052
-10	-3.937	87992.76	87.99276
0	0	101325	101.325

Contoh :

$$1 \text{ cmHg} = 0.3937 \text{ inHg}$$

$$1 \text{ atm} = 101325$$

Pa

$$1 \text{ cmHg} = 1333.22 \text{ Pa}$$

$$-10 \text{ cmHg} = \dots\dots\text{Pa}$$

$$= (-10 \times 1333.22) + 101325$$

$$= 87992.76 \text{ Pa}$$

$$= 87.9927 \text{ kPa}$$

LAMPIRAN 7
TABEL HASIL PERCOBAAN

Tdes	P₁ gauge (cmHg)	T_{cb} (celcius)	COP	Q_{ref} (Kw)	Q_{des} (Kw)
140 °C	0.32	13.2	0.00558	0.00268	0.48
130 °C	0.12	15.2	0.00463	0.0027	0.49
120 °C	-10	20	0.003	0.00128	0.42
110 °C	-29	22	0.0024	0.00091	0.37
100 °C	-35	24	0.001	0.00036	0.35

o



**LAMPIRAN
DATA PERCOBAAN**

PROSES DESORPSI

Tanggal = 24 sept '07
Tenvi = 27 °C - 29 °C

Jam	TEKANAN (cmHg)			TEMPERATUR (°C)				KETERANGAN
	P1	P2	P4	Tin	Tad1	Tad2	Tres	
12.12	-69	-57	-70		27.7	27.7	27.1	Awal
12.13								Aliri Oli 140°C
12.21	-67	-57	-64	139.4	102.4	28.5	27.5	
12.23	-63	-57	-60	139.9	107	29.1	27.6	
12.27	-55	-57	-52	139.7	111.8	31.4	27.9	
12.31	-46	-57	-44	139.8	114.4	33.3	27.4	
12.34	-41	-57	-39	139.8	115.8	35.2	27.8	
12.37	-32	-57	-30	139.8	117.8	37.3	27.1	
12.41	-24	-57	-23	139.8	119.4	40.4	27.2	
12.43	-18	-57	-18	139.8	120.2	42.5	27.2	
12.46	-12	-57	-12	139.7	121	44.1	27.2	
12.5	-4	-57	-4	139.9	122.1	46.4	27.4	
12.54	0.04	-57	0	139.9	123	48.5	27.5	
13.02	0.21	-57	0.17	139.8	124.3	53.1	27.9	
13.07	0.29	-57	0.24	139.7	124.5	55.3	28	
13.11	0.32	-57	0.27	139.8	124.6	56.6	28.2	
13.13	0.32	-57	0.27	139.8	124.7	56.7	28.4	Katup buka

	0.2	-57	0.15	139.8	124.9	57.2	28.5	
	0	-57	-2	139.8	125	58.2	28.4	
	-10	-57	-11	139.8	125.1	59.3	28.4	
	-18	-57	-18	139.8	125.2	60.4	29.5	
	-22	-57	-22	139.8	125.1	60.5	29.4	
	-30	-57	-28	139.8	125.3	60.8	30	
	-44	-57	-40	139.8	125.3	61.2	32.4	
	-50	-57	-46	139.8	125.2	61.2	34.6	
	-52	-57	-48	139.8	125.4	62.4	35.4	
13.18	-53	-57	-49	139.8	125.4	63.2	35.3	
13.2	-55	-57	-50	139.7	125.5	65.5	34.5	
13.25	-57	-57	-52	140	125.6	65.4	32.5	
13.3	-58	-57	-54	139.8	125.7	65.4	30.3	
13.36	-59	-57	-54	140	125.7	65.2	29	
13.4	-59	-57	-55	139.8	125.8	65.3	29.2	
13.5	-60	-57	-55	139.9	125.7	65.2	29.2	
14	-60	-57	-55	140	125.9	65.4	28.6	
14.06	-60	-57	-55	139.8	126	65.4	28.2	
14.12	-60	-57	-55	139.8	126.2	65.3	28.9	
14.13	-60	-57	-55	139.6	126.3	65.4	28.6	Tutup (selesai)
								1 liter dalam waktu 70 detik

PROSES ADSORPSI

Tanggal = 24 sept '07

Tenvi = 25°C - 27°C

Tin = 27°C - 29°C

Jam	TEKANAN (cmHg)			Tad1	Tad2	Tcb	KETERANGAN
	P1	P3	P4				
14.35						26.4	aliri air
14.37	-63	-66	-63	48	60.4	26.4	
14.39	-68	-66	-65	46.1	60.3	26.3	
14.46	-68	-66	-70	40.9	56.6	26.2	
14.56	-68	-66	-71	36.9	50.7	26.1	
15.06	-69	-66	-72	34.9	44.6	25.9	
15.13	-69	-66	-72	33.8	41.4	25.4	
15.18	-69	-66	-72	33.3	39.5	25	
15.32	-69	-66	-72	32	35.4	25	
15.35	-69	-66	-72	31.9	34.3	25.3	Buka katup 3
15.37	-69	-67	-72	31.7	34.5	25.2	
15.40	-69	-68	-72	31.6	33.4	25.3	
15.44	-69	-68	-72	31.4	32.4	24.3	
15.47	-69	-68	-72	31.3	32.1	23.4	
15.52	-69	-69	-72	31.1	31.6	22.5	
15.58	-69	-70	-72	31	31.5	21.5	

16.02	-69	-70	-72	30.9	30	20.5	
16.09	-69	-70	-72	30.9	29.3	19.3	
16.19	-69	-70	-72	30.7	29.1	18.4	
16.24	-69	-70	-72	30.7	28.3	17.8	
16.32	-69	-70	-72	30.6	28.2	17.3	
16.35	-69	-70	-72	30.5	28.3	16.1	
16.46	-69	-70	-72	30.3	27	16	
16.47	-69	-70	-72	30.3	27.6	15.7	
16.51	-69	-70	-71	30.2	27.3	15.2	
17.03	-69	-71	-71	30	27.6	14.7	
17.08	-69	-71	-71	30	27.5	14	
17.16	-69	-71	-71	30	27.6	14.6	
17.18	-69	-71	-71	30	27.8	14	
17.25	-69	-71	-71	30	27.3	13.3	
17.33	-69	-71	-71	30	27.8	13	
17.35	-69	-71	-71	30	27.9	13.8	2 jam (tutup)

PROSES DESORPSI

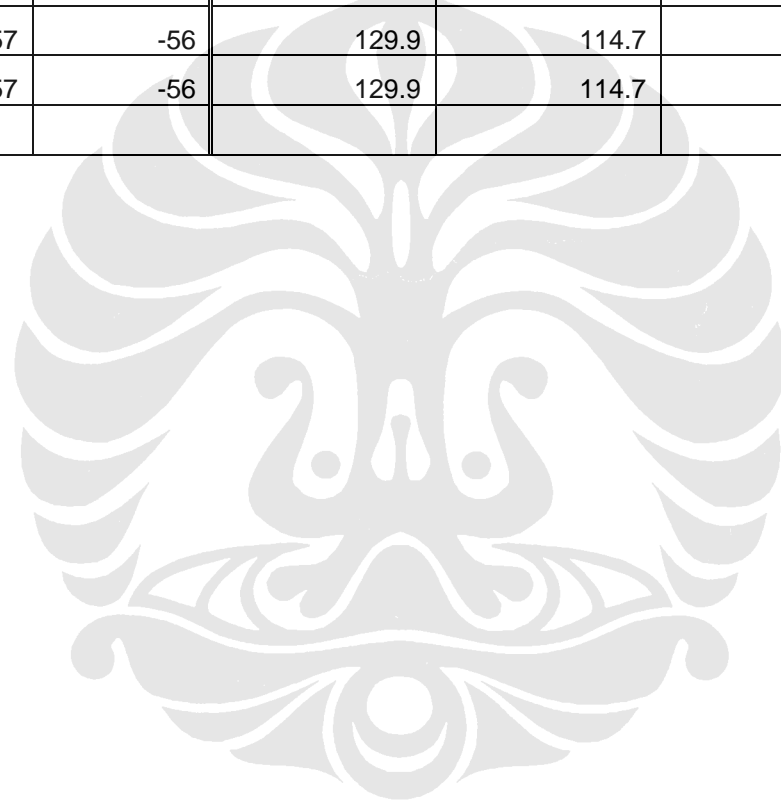
Tanggal = 25 sept '07

Tenvi = 25 °C - 26 °C

Jam	TEKANAN (cmHg)			TEMPERATUR (°C)				KETERANGAN
	P1	P2	P4	Tin	Tad1	Tad2	Tres	
9.00	-69	-57	-66		27.7	26.8	25.7	Awal
9.02								Aliri Oli 130 ⁰ C
9.08	-67	-57	-64	130	91.4	26.6	25.8	
9.11	-62	-57	-60	129.8	98	27.5	25.4	
9.13	-60	-57	-58	129.9	99.4	28.4	25.2	
9.16	-56	-57	-53	129.8	101.5	29.4	25.5	
9.20	-48	-57	-46	129.9	104.2	31.1	25.9	
9.23	-42	-57	-40	129.8	105.6	33.3	25	
9.27	-36	-57	-34	129.8	107	35.3	25.5	
9.30	-29	-57	-29	129.8	108.5	37.5	25.7	
9.34	-22	-57	-22	130	109.9	40.3	26	
9.37	-18	-57	-19	129.9	110.6	41.3	26.1	
9.40	-15	-57	-16	129.9	111.1	42.4	26.2	
9.44	-8	-57	-9	129.8	112.4	45.5	26.4	
9.50	-2	-57	-6	130	113.2	47.4	26.4	

9.55	0.05	-57	0.03	129.9	113.9	50.3	26.5	
10.00	0.1	-57	0.07	129.9	114.3	51.5	26.7	
10	0	-57	0	130	114	52	27	Buka
	0.05	-57	0.02	129.9	114.4	52.1	26.5	
	0	-57	-2	129.9	114.5	53.5	26.7	
	-5	-57	-6	129.9	114.6	54.2	26.4	
	-10	-57	-10	129.9	114.7	55.5	26.6	
	-15	-57	-15	129.9	114.9	56	26.8	
	-20	-57	-19	129.9	115	56.2	26	
	-25	-57	-24	129.9	115.1	56.2	26.8	
	-30	-57	-28	129.9	115.1	56.5	26.7	
	-35	-57	-32	129.9	115	57.1	27.5	
	-40	-57	-37	129.9	114.9	57.1	27.4	
	-45	-57	-40	129.9	114.3	58.3	29.2	
	-50	-57	-47	129.9	113.9	58.5	29.3	
10.09	-56	-57	-51	129.9	112.7	60.4	31.4	
10.13	-57	-57	-53	129.9	112.5	60.9	29.5	
10.18	-58	-57	-64	129.9	112.8	60.7	28.5	
10.22	-59	-57	-54	129.9	113	60.5	27.3	
10.29	-59	-57	-55	130	113.4	60.4	26.1	
10.39	-59	-57	-56	130	113.9	60.4	26.3	

10.46	-59	-57	-56	129.8	114.3	60.3	26.5	
10.57	-59	-57	-56	129.9	114.6	60.5	26.2	
11.00	-59	-57	-56	129.9	114.7	60.4	26.2	
11.02	-59	-57	-56	129.9	114.7	60.4	26.2	Tutup (selesai)
								1 liter dalam waktu 74 detik



PROSES ADSORPSI

Tanggal = 25 sep '07

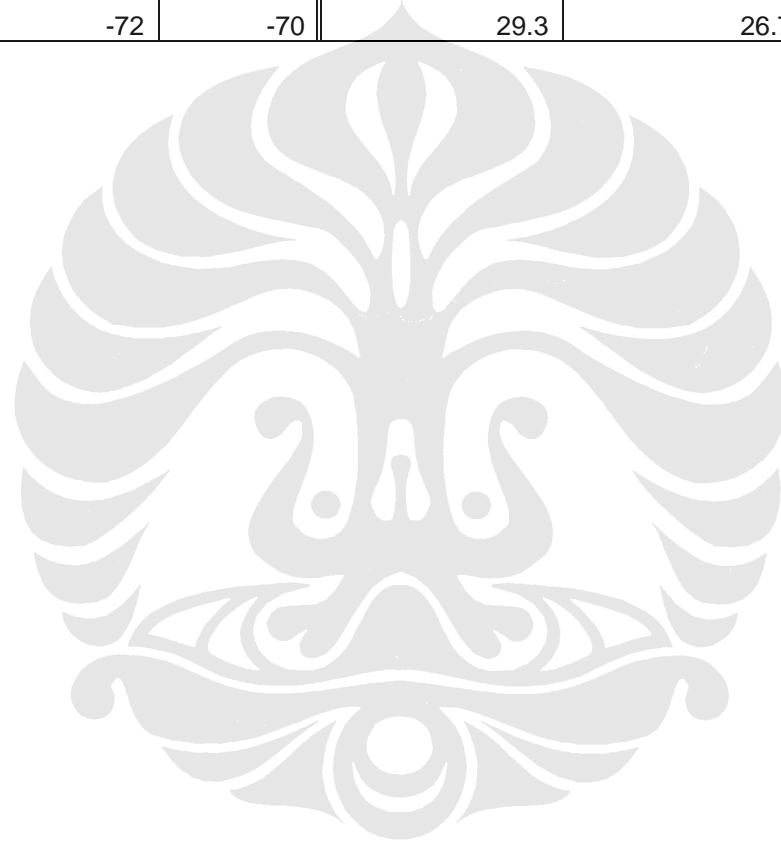
Tenvi = 27°C - 28°C

Tin = 27 °C - 29 °C

Jam	TEKANAN (cmHg)			TEMPERATUR (°C)			KETERANGAN
	P1	P3	P4	Tad1	Tad2	Tcb	
11.1	-59	-66	-55	95.2	58.5	26.4	
11.14							Aliri Air
11.15	-62	-66	-58	53.5	57.5	25.2	
11.23	-66	-66	-69	42.3	55.5	25.2	
11.27	-67	-62	-70	40.1	53.6	25.4	
11.32	-67	-62	-71	38	50.8	25.6	
11.4	-67	-61	-72	36	46.5	25.5	
11.43	-67	-61	-72	35.7	46.5	25.6	
11.46	-67	-61	-72	34.9	43.9	25.6	
11.51	-67	-61	-72	34.2	41.8	25.5	
12.02	-67	-61	-72	33.1	37.7	25.5	
12.07	-67	-61	-72	32.7	36.4	25.4	
12.14	-67	-61	-72	32.3	34.6	25.2	Buka

12.15	-67	-66	-72	32.2	34.3	25.2
12.15	-67	-68	-72	32.2	34.4	25
12.22	-68	-70	-72	31.7	32.3	24.3
12.26	-68	-70	-72	31.6	32.2	23.5
12.37	-68	-70	-71	31.2	30.3	21.3
12.43	-68	-70	-71	31	30.5	19.7
12.49	-68	-70	-71	30.9	29.5	18.7
12.52	-68	-71	-71	30.9	29	18.2
12.57	-68	-72	-71	30.8	28.9	17.2
13.07	-68	-72	-71	30.6	28.1	17
13.1	-68	-71	-70	30.6	28.2	16
13.13	-68	-71	-70	30.6	28.7	16.1
13.14	-68	-71	-70	30.5	28.2	16.1
13.23	-68	-71	-70	30.4	27.7	16.5
13.27	-68	-71	-70	30.3	27.7	15.7
13.32	-68	-71	-70	30.2	27.7	15.4
13.37	-68	-71	-70	30.1	27.2	15.2
13.47	-68	-71	-70	29.9	27.7	15.8
13.56	-68	-71	-70	29.7	27.7	15.7
14.02	-68	-71	-70	29.5	27	15.7

14.09	-68	-72	-70	29.4	26.3	15.6	
14.14	-68	-72	-70	29.3	26.7	15.4	2 jam Tutup



PROSES DESORPSI

Tanggal = 26-Sep-07

Tenvi = 26°C - 28°C

Jam	TEKANAN (cmHg)			TEMPERATUR (°C)				KETERANGAN
	P1	P2	P4	Tin	Tad1	Tad2	Tres	
9.31	-66	-57	-62		27.7	26.7	26.4	Awal
9.33				120				Aliri Oli 120°C
9.43	-59	-57	-56	119.9	89.3	27.6	26.4	
9.47	-54	-57	-51	120	93.4	29.4	26.6	
9.52	-48	-57	-44	120	95.5	31.4	26.8	
9.55	-41	-57	-39	119.9	97.4	33.4	26.1	
10.00	-36	-57	-35	119.8	98.7	36	26.2	
10.05	-30	-57	-30	119.9	99.9	38.4	26.2	
10.09	-26	-57	-26	120	100.7	40.4	26.2	
10.10	-25	-57	-25	120	100.8	40.4	26.2	
10.13	-22	-57	-22	120	101.5	42.4	26.2	
10.15	-21	-57	-21	119.9	101.7	42.5	26.3	
10.18	-18	-57	-19	120	102.2	44.3	26.4	
10.22	-16	-57	-17	119.9	102.6	45.4	26.5	
10.25	-14	-57	-15	119.9	103	46.3	26.8	
10.28	-12	-57	-14	119.9	103.5	47.3	26.9	
10.30	-11	-57	-12	120	103.7	47.7	26.1	
10.33	-10	-57	-12	129	104	48.7	26.3	Buka

	-15	-57	-16	119.9	104	48.5	26.5	
	-20	-57	-19	120	104.2	49	26.3	
	-25	-57	-24	119.9	104.4	50	26.6	
	-30	-57	-28	120	104.6	50.2	26.4	
	-35	-57	-32	119.9	104.8	50.2	26.5	
	-40	-57	-36	119.9	105.2	50.4	26.7	
	-45	-57	-42	120	105.5	50.4	26.5	
10.37	-50	-57	-46	120	105.8	51.5	26.7	
10.38	-55	-57	-51	120	106	53	27.3	
10.40	-56	-57	-51	120	105.8	54.6	27.4	
10.44	-56	-57	-52	120	105.6	54.9	27.2	
10.48	-56	-57	-52	120	105.7	55.2	26.3	
10.52	-56	-57	-52	119.9	105.7	54.5	26.6	
11.03	-56	-57	-52	120	105.9	51.9	26.2	
11.10	-56	-57	-52	119.9	106	51.1	26.3	
11.17	-56	-57	-52	120	106	51.4	26.2	
11.23	-56	-57	-52	120	106.1	51.1	26.4	
11.33	-56	-57	-52	120	106.1	50.5	26.5	Tutup (setelah 2 jam)
								1 liter dalam waktu 77 detik

PROSES ADSORPSI

Tanggal =26-Sep-07

Tenvi =25°C-27°C

Tin = 27°C-29°C

Jam	TEKANAN (cmHg)			TEMPERATUR (°C)			KETERANGAN
	P1	P3	P4	Tad1	Tad2	Tcb	
11.50	-57	-61	-52	81.3	53.6	26.3	awal
12.00	-63	-58	-60	46.5	52.5	26.4	aliri air
12.02	-65	-58	-63	42.8	51.3	26.5	
12.06	-66	-58	-66	40.1	50.5	26.4	
12.10	-66	-58	-67	38.6	49.5	26.2	
12.13	-66	-58	-68	37.1	47.6	26	
12.17	-66	-58	-69	36.1	45.6	25.8	
12.23	-66	-58	-70	34.6	42.4	25.3	
12.28	-68	-58	-70	34	40.7	25	
12.35	-68	-58	-70	33	38.4	25.4	
12.40	-68	-58	-70	32.4	36.4	25.8	
12.45	-68	-58	-70	32	35.3	25.1	
12.51	-68	-58	-70	31.4	33.3	25.2	
12.55	-68	-58	-70	31.2	32.4	25.3	
13.00	-68	-58	-70	31	32.4	25.2	
13.01	-68	-68	-70	30.8	31.1	25.3	
13.08	-68	-68	-69	30.5	30.3	25.2	buka

13.11	-68	-69	-69	30.3	30.2	25.1	
13.16	-68	-69	-69	30	29.3	24.2	
13.20	-68	-69	-69	29.8	29.2	23.4	
13.24	-68	-69	-69	29.6	28.2	22.5	
13.29	-68	-69	-69	29.4	28.4	22	
13.38	-68	-69	-69	29.1	27.1	21.1	
13.43	-69	-69	-68	28.9	27.5	21	
13.47	-69	-69	-68	28.8	27	21.5	
13.55	-69	-69	-68	28.6	27.2	20.7	
14.00	-69	-69	-68	28.4	26	20	
14.06	-69	-69	-68	28.2	26.2	20	
14.10	-69	-69	-68	28.1	26.1	20.6	
14.22	-69	-69	-68	27.8	26.7	20.3	
14.35	-69	-70	-68	27.5	26.6	20.1	
14.43	-69	-70	-68	27.4	25.9	20.8	
14.48	-69	-70	-68	27.3	25.4	20.1	
14.53	-69	-70	-68	27.2	25	20.1	
15.00	-69	-70	-68	27.1	25.7	20.2	2 jam (tutup)

PROSES DESORPSI

Tanggal =27-Sep-07

Tenvi = 25⁰C - 29⁰C

Jam	TEKANAN (cmHg)			TEMPERATUR (°C)				KETERANGAN
	P1	P2	P4	Tin	Tad1	Tad2	Tres	
9.54	-66	-57	-62		27.3	27.5	26.2	Awal
9.55				110				Aliri Oli 110 ⁰ C
10.00	-64	-57	-61	110	73.9	27.3	26.0	
10.02	-63	-57	-60	110	75.5	27.5	26.0	
10.05	-61	-57	-58	109.9	79.8	27.5	26.1	
10.07	-60	-57	-56	110	80.5	28.3	26.1	
10.10	-57	-57	-54	110	85.2	29.5	26.1	
10.13	-54	-57	-52	110	87.1	31.3	26.0	
10.16	-52	-57	-49	109.8	88	31.6	26.0	
10.19	-49	-57	-47	109.9	89.4	33.3	26.0	
10.22	-46	-57	-43	109.9	90.5	35.4	26.0	
10.25	-44	-57	-42	110	90.9	35.6	26.0	
10.27	-42	-57	-40	110	91.6	37.2	26.2	
10.30	-40	-57	-38	110	92.2	38.6	26.2	
10.33	-38	-57	-37	110	92.6	39.6	26.3	
10.35	-37	-57	-36	110	93	40.5	26.4	
10.40	-35	-57	-34	109.9	93.5	41.7	26.5	
10.45	-33	-57	-32	110	94.1	43.4	26.7	
10.50	-30	-57	-30	110	94.6	44.6	26.8	

10.55	-29	-57	-29	109.9	95	45.6	26.1	Buka
	-30	-57	-29	110	95.1	45.8	26.2	
	-35	-57	-33	110	95.1	45.5	26.3	
	-40	-57	-37	110	95.1	46.1	26.6	
	-45	-57	-43	110	95.2	46.3	26.4	
	-50	-57	-48	109.9	95.4	46.4	26.6	
10.58	-52	-57	-49	110	95.9	46.5	26.4	
11.00	-52	-57	-49	110	96.4	48	26.0	
11.08	-52	-57	-49	110	96.9	48.9	26.2	
11.18	-52	-57	-49	109.9	97.4	48.6	26.8	
11.22	-52	-57	-49	110	97.3	50.6	26.9	
11.29	-52	-57	-49	110	97.2	51.6	26.0	
11.36	-52	-57	-49	110	97.1	52.4	26.1	
11.47	-52	-57	-49	109.9	96.9	54.4	26.4	
11.50	-52	-57	-49	110	96.8	54.5	26.5	
11.52	-52	-57	-49	109.9	96.7	54.5	26.6	
11.55	-52	-57	-49	110	96.7	54.3	26.9	Tutup (setelah 2 jam)
								1 liter dalam waktu 84 detik

PROSES ADSORPSI

Tanggal = 27-Sep-07

Tenvi = 26°C - 27°C

Tin = 27°C - 29 °C

Jam	TEKANAN (cmHg)			TEMPERATUR (°C)			KETERANGAN
	P1	P3	P4	Tad1	Tad2	Tcb	
12.15	-57	-54	-53	76.5	49.1	26.5	awal
12.16	-58	-54	-54	57.8	48.3	26.6	aliri air
12.20	-64	-54	-61	45.8	48.1	26.5	
12.25	-66	-54	-66	41.9	47.3	26.4	
12.27	-68	-54	-68	39.5	46.5	26.3	
12.30	-68	-54	-69	38	45.4	26.3	
12.35	-68	-54	-70	35.9	43.5	26.3	
12.40	-68	-54	-70	34.8	41.6	26.4	
12.45	-68	-54	-71	33.9	39.4	26.7	
12.50	-68	-54	-71	33	37.4	25.6	
12.55	-68	-54	-71	32.3	35.6	25.1	
13.00	-68	-54	-72	31.8	34.3	25.6	
13.05	-68	-54	-72	31.4	33.3	25.1	
13.16	-68	-54	-72	30.7	31.2	25.3	Buka
13.17	-68	-68	-69	30.6	31.7	25.0	
13.21	-68	-68	-68	30.4	30.2	24.5	
13.27	-68	-68	-68	30	29.1	23.7	
13.32	-68	-68	-68	29.6	29.5	23.5	
13.37	-68	-68	-68	29.3	28.6	23.0	

13.38	-68	-68	-68	29.3	28.2	22.9	
13.42	-68	-68	-68	29.1	28.5	22.5	
13.44	-68	-68	-68	29	28.3	22.3	
13.46	-68	-68	-68	28.9	27.5	22.2	
13.47	-68	-68	-67	28.8	27.4	22.0	
13.52	-68	-68	-67	28.7	27	22.9	
13.57	-68	-68	-67	28.5	27.4	22.7	
14.03	-68	-68	-67	28.3	27.5	22.6	
14.07	-68	-68	-67	28.1	27	22.5	
14.12	-68	-68	-67	28	26.5	22.4	
14.16	-68	-68	-67	28	26.3	22.4	
14.38	-68	-68	-66	27.7	26	22.5	
14.35	-68	-68	-66	27.6	26.6	22.5	
14.42	-68	-68	-66	27.5	26.3	22.6	
14.45	-68	-68	-66	27.4	26.3	22.7	
14.5	-68	-68	-66	27.4	26.3	22.8	
15.00	-68	-68	-66	27.3	26.5	22.0	
15.05	-68	-68	-66	27.2	26.6	22.1	
15.10	-68	-68	-65	27.1	26.4	22.1	
15.16	-68	-68	-65	27	26.1	22.2	2 jam (tutup)

PROSES DESORPSI

Tanggal = 28-Sep-07
Tenvi = 25⁰C - 28 °C

Jam	TEKANAN (cmHg)			TEMPERATUR (°C)				KETERANGAN
	P1	P2	P4	Tin	Tad1	Tad2	Tres	
9.30	-62	-56	-60		26.9	26.6	25.5	Awal
9.31				100				Aliri Oli 100 ⁰ C
9.35	-61	-56	-58	100	65.4	26.8	25.3	
9.40	-59	-56	-56	100	71.7	27.6	25.4	
9.42	-58	-56	-55	100	72.6	27.5	25.4	
9.46	-56	-56	-53	100	76.6	28.6	25.6	
9.48	-54	-56	-52	99.9	78	29.4	25.7	
9.52	-52	-56	-49	99.8	79.6	31.2	25.9	
9.57	-48	-56	-46	100	81.3	33.1	26.0	
10.00	-47	-56	-44	100	81.9	34.3	26.2	
10.01	-46	-56	-44	100	82.2	34.4	26.2	
10.06	-44	-56	-42	99.9	83.3	36.4	26.4	
10.10	-42	-56	-40	100	83.8	37.5	26.5	
10.12	-41	-56	-39	100	84.1	38.1	26.5	
10.15	-40	-56	-38	100	84.5	39.3	26.6	
10.20	-38	-56	-37	100	84.9	40.5	26.7	
10.24	-37	-56	-36	100	85.4	41.5	26.9	
10.29	-36	-56	-34	99.9	85.8	42.4	26.2	
10.31	-35	-56	-34	100	85.9	42.6	26.5	Buka
	-40	-56	-38	100	86	42.5	26.8	
	-46	-56	-42	100	86	42.5	26.8	
	-50	-56	-46	99.9	86	42.1	26.5	
10.34	-52	-56	-48	100	86.1	43.3	26.5	
10.38	-52	-56	-48	100	86.3	43.5	26.5	

10.43	-52	-56	-48	100	86.6	44.7	26.2	
10.47	-52	-56	-48	100	86.7	44.6	26.4	
10.52	-52	-56	-48	100	87	45	26.6	
10.57	-52	-56	-48	100	87.1	45.9	26.9	
11.02	-52	-56	-48	99.9	87.2	45.5	26.2	
11.10	-52	-56	-48	100	87.4	46.5	26.3	
11.19	-52	-56	-48	100	87.5	46.8	26.4	
11.25	-52	-56	-48	100.1	87.6	47.5	26.0	
11.30	-52	-56	-48	100	87.7	47.6	26.2	
11.31	-52	-56	-48	100	87.7	47.4	26.3	Tutup (setelah 2 jam)
								1 liter dalam waktu 86 detik

PROSES ADSORPSI

Tanggal =28-Sep-07

Tenvi =25°C - 27°C

Tin = 27°C - 29°C

Jam	TEKANAN (cmHg)			TEMPERATUR (°C)			KETERANGAN
	P1	P3	P4	Tad1	Tad2	Tcb	
11.57	-59	-52	-54	64.9	45.3	25.8	awal
12.00							aliri air
12.04	-64	-52	-60	39.1	44.1	25.2	
12.07	-65	-52	-62	37.5	43.5	25	
12.51	-65	-52	-69	29.8	30.3	24.3	
13.00	-66	-52	-69	29.2	30	24.4	Buka
13.01	-67	-66	-66	29.1	29.7	24.2	
13.04	-67	-66	-66	29	29.6	24.3	
13.13	-67	-66	-65	28.7	29.4	24	
13.23	-67	-66	-65	28.5	28.7	24.5	
13.29	-67	-66	-65	28.4	28.2	24.4	
13.37	-67	-66	-65	28.2	28	24.2	
13.43	-67	-66	-65	28.2	28	24.1	
13.47	-67	-66	-65	28.2	27.5	24	

13.52	-67	-66	-65	28.1	27.1	24	
13.57	-67	-66	-65	28.1	27.8	24	
14.00	-67	-66	-65	28.1	27.7	24	
14.03	-67	-66	-65	28.1	27.5	24	
14.08	-67	-66	-65	28.1	27.4	24	
14.35	-67	-66	-65	28	27.4	24.5	
14.49	-67	-66	-65	28	27.4	24.3	
14.55	-67	-66	-65	28	27.4	24	
15.00	-67	-66	-64	28	27.5	24.3	Selesai