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APPENDICES

Appendix A Specification of Various Glycerol Feedstocks

The specification of different purities glycerol feedstocks (refined glycerol, yellow grade glycerol, technical grade glycerol, and crude grade glycerol) using in this research obtained from PTT Global Chemical Public Company Limited.

Table A1 The specification of glycerol feedstocks

Feedstocks	Glycerol (wt. %)	Methanol (wt. %)	MONG* (wt. %)	Water (wt. %)	Ash (wt. %)
Refined glycerol	99.5	< 0.5	< 1	< 0.5	< 0.5
Yellow grade glycerol	80	< 1	< 20	< 1	< 0.1
Technical grade glycerol	> 80	< 1	< 2	< 10	< 7
Crude glycerol	50-60	2-5	< 20	< 7	< 5

*MONG = Matter Organic Non Glycerol

Appendix B Properties of Various Feedstocks, Product and Intermediates

Table B1 Density of glycerol feedstocks

Feedstocks	Density (g/cm ³)
Refined glycerol	1.236
Yellow grade glycerol	1.206
Technical grade glycerol	1.250
Crude glycerol	1.161

Table B2 Melting point, boiling point, vapour pressure and density of product and intermediates

Feedstocks	Melting Point (°C)	Boiling point (°C)	Vapor pressure at 20 °C (kPa)	Density at 20 °C (g/cm ³)
Propylene glycol	-59	188	0.01	1.036
Acetone	-94	56	24.53	0.791
Methanol	-98	65	13.02	0.792
Ethanol	-114	78	5.95	0.789
Propanal	-81	49	31.3	0.800
n-Propanol	-126	97	1.99	0.803
i-Propanol	-98	82.5	4.1	0.786

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2. Thitipong, T.; Jongpatiwut, S. and Rirksomboon, T. (2012, April 24) Effect of Feedstocks on Dehydroxylation of Glycerol to Propylene Glycol. Poster presented at The 3th Research Symposium on Petroleum, Petrochemicals, and Advanced Materials and the 18th PPC Symposium on Petroleum, Petrochemicals, and Polymers, Bangkok, Thailand.