



P B I

RAFFINAT-1 SPECIFICATION

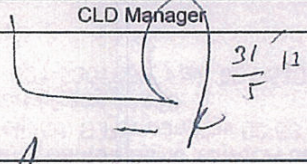
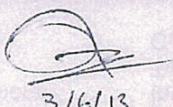
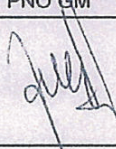
No	Properties	Unit	Sales Spec	Test Methods
1	C ₁ +C ₂ +C ₃ 's	wt %	< 0.3	ASTM D-2593
2	Iso and Normal Butane	wt %	< 20.0	ASTM D-2593
3	1-Butene + cis and trans 2 Butene and i-Butene	wt %	> 79.0	ASTM D-2593
4	1-Butene/2-Butene Ratio		> 1.5	ASTM D-2593
5	i-Butene	wt %	> 35.0	ASTM D-2593
6	1,3, Butadiene	wt %	< 0.2	ASTM D-2593
7	Total C ₅	wt %	< 0.3 **	ASTM D-2593
8	Total Sulfur	ppmw	< 5.0 *	GC-FPD
9	Oxygen (in vapor)	% V	< 0.1 *	O2 Analyzer
10	Total Chlorides	ppmw	< 5.0 *	ASTM D-4929
11	Fe + K + Na	ppmw	< 2.0 *	AAS
12	Acetylenes (as VA + EA)	ppmw	< 5.0	ASTM D-2593
13	Basic Nitrogen (as N)	ppmw	< 1.0**	ASTM D-4629
14	Heterogeneous (free) Water		Nil	Visual

Note:

* Designates no problems expected, but verification post start up and reduced sampling frequency can be agreed.

** Designates PBI to review with licensor to assure this limit is tolerable.

Date Effective: 01 July 2013

CLD Manager	BDD Manager	PNO GM	Monomer Sales GM
	 3/6/13		
Wildan Alhadi	Edy Hardjito	Supriyanto	Ruly Ariawan