

## Mixed Sweet Blend (MSW) Pool Quality Specifications

Quality Specifications for Component Streams to the Mixed Sweet Blend (MSW) Pool						
Quality	Units	Min	Max	Referee Test Method	Test Frequency	Enbridge Response to Crude Not Meeting Quality Specs
Existing Specifications						
Density (15C)	kg/m <sup>3</sup>	>799	<876	ASTMD4052	Frequency: AR <sup>2</sup>	Delayed shut-in <sup>6</sup>
Viscosity, at reference temp	cSt	2	<20	ASTMD7042	Frequency: QR <sup>4</sup>	Delayed shut-in <sup>6</sup>
Olefins, total <sup>1</sup>	mass%		<1	H NMR	Frequency: R <sup>7</sup>	Immediate shut-in <sup>5</sup>
Vapour Pressure (VPCR <sub>4.1</sub> @ 37.8 C)	kPa		85/95 <sup>8</sup>	ASTMD6377	Frequency: MR <sup>3</sup>	Immediate shut-in <sup>5</sup>
S&W	vol%		0.5	ASTMD4007	Frequency: AR <sup>2</sup>	Immediate shut-in <sup>5</sup>
Organic Chlorides <sup>1</sup>	wppm		<1	ASTMD4929	Frequency: QR <sup>4</sup>	Immediate shut-in <sup>5</sup>
Sulphur, total	wt%		0.5	ASTMD4294	Frequency: AR <sup>2</sup>	Reclassification Process <sup>6</sup>
Phosphorus, volatile	ppm		< 1	ICP AES (D86 for IBP - 250 cut)	Frequency: R <sup>7</sup>	CAPP Guidance. Refer to AEB Directive 058. Violating test results communicated to the AEB

### Notes

- For these properties, blending should not occur.
- AR: All Receipts of MSW component streams tested using weekly composite.
- MR: Monthly Random testing of MSW component streams.
- QR: Quarterly Random testing of MSW component streams. Upon violation perform probational testing at Enbridge discretion.
- Immediate shut-in upon identifying violation. Request third party Certificate of Analysis prior to subsequent receipt.
- Upon violation, notification to applicable party, increase monitoring. Consequence based on outcome of increased monitoring.
- R: Annual Random testing.
- Max 85kPa from May 1<sup>st</sup> through October 31<sup>st</sup>  
Max 95kPa from November 1<sup>st</sup> through April 30<sup>th</sup>