

PROCESS DESCRIPTION:

CRITERION*
Mild Hydrocracking

The objective of the Mild Hydrocracking process is to convert 20-60% of the vacuum gas oil (650°F+, 343°C+ material) to low sulphur distillates and produce high quality cat cracker feedstocks.

The feedstock is mostly vacuum gas oil although sometimes mixed with distillate streams. Typical operating conditions are:

H₂ partial pressure = 50-85 bar (700-1200 psi)
 LHSV = 0.3-1 v/v/h
 H₂/oil rate = 330-500 Nm³/m³ (2000-3000 SCF/bbl)

CRITERION currently offers three different catalyst systems for mild hydrocracking service. The table below gives the performance characteristics of CRITERION catalyst systems showing the 650°F+ (343°C+) conversion, product yield selectivity and quality. Systems 1 and 2 give 15-30%W and 25-40%W conversion of 650°F, respectively. Both systems are selective to the production of jet and diesel. Higher 650°F+ conversion (40-60%W) with product selectivity to the production of gasoline/jet fuel are achieved with System 3. Good quality upgrading is achieved at the moderate mild hydrocracking pressure operation. Low sulphur and over 40 cetane diesel are achieved. The resulting FCC feed is low in sulphur, nitrogen, Conradson carbon and metals.

CRITERION Mild Hydrocracking Catalysts Options

	SYSTEM 1	SYSTEM 2	SYSTEM 3
	All Alumina	424/Amorphous Silica Alumina	424/Zeolites
Conversion 650EF,%W	15-30	25-40	40-60
Selectivity	Jet/Diesel	Jet/Diesel	Gasoline/Jet/Diesel
Product Properties:			
Diesel	<-----Low S FCC Feed----->		
	<-----Low S/N/CCR/Metals----->		

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ADDITIONAL INFORMATION

All catalyst information supplied by CRITERION is considered accurate but is furnished with the express understanding that the customer receiving such information shall make its own assessments to determine suitability of such information for customer's particular purpose. All purchases of catalyst from CRITERION are subject to CRITERION's standard terms and conditions of sale (including CRITERION's product warranties) set forth in a sales proposal, sales contract, order acknowledgement, and/or bill of lading.

HOUSTON:

16825 Northchase Drive, Suite 1000
Houston, Texas 77060-6029
Telephone: (1) 281- 874-2600
Telefax: (1) 281- 874-2641

CANADA:

5241 Calgary Trail Southbound
Centre 104, Suite # 810
Edmonton, Alberta T6H 5G8
Telephone: (1) 780-438-4188
Telefax: (1) 780-438-3473

DUBAI:

10th Floor, Dubai Convention Tower
Zabeel Area
Dubai, UAE
Telephone: +971 4 4405 4640
Telefax: +971 4 4405 4656

ENGLAND:

1650 Parkway
The Solent Business Park,
Whiteley, Fareham
Hampshire, PO15 7AH England
Telephone: (44) 1 489-881881
Telefax: (44) 1 489-881882

SINGAPORE:

298 Tiong Bahru Road
#07-03 Central Plaza
Singapore 168730
Telephone: (65) 6276-3627
Telefax: (65) 6276-7455

EMAIL: CriterionPublicAffairs@cri-criterion.com