

## PROCESS DESCRIPTION:

# CRITERION\* Hydrogenation

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### **Selective Hydrogenation**

Selective hydrogenation is a general term used to describe applications where controlled or selective hydrogenation of a particular feedstock component is desired. CRITERION manufactures catalysts optimized for diolefin hydrogenation and acetylene hydrogenation.

CRITERION 204 is recommended when selective conversion of diolefins to olefins is desired. Used in a single stage process, 204 has high diolefin selectivity. With a two stage process, olefin saturation and hydrodesulfurization are added. 204 has been used in pyrolysis gas hydrotreaters and shown excellent stability.

CRITERION 874A is a precious metal promoted, hollow cylinder shaped catalyst developed for acetylene hydrogenation. 874A is highly selective for acetylene to ethylene conversion. In addition, 874A does not require CO doping to achieve its high selectivity, making it the ideal choice where CO-free ethylene is desired. 874A's unique shape provides low pressure drop.

Acetylene conversion catalyst will gradually lose activity due to deposition of polymeric material. 874A can be successfully regenerated without loss of selectivity and activity.

### **Aromatic Saturation**

CRITERION 624 is a low density, precious metal catalyst with commercial experience in a variety of applications.

Commercial applications for CRITERION 624 include:

### **Hydrocarbon Solvents**

624 has been used to reduce the aromatics content for a wide range of solvents with initial boiling points ranging from 120 deg F (49 deg C) to 500 deg F (260 deg C). Aromatics contents as low as a few hundred ppm can be obtained with appropriate operating conditions.

### **Distillates**

624 can be used to produce high smoke point jet fuels. Improvement ranges from 8 to 15 smoke point numbers. It also can be used for cetane number improvement in hydrocracked light gas oils. Cetane number increases of 6 to 8 have been observed.

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## Specialty Oils

624 can be used to produce white medicinal oils. These oils contain less than 10 ppm benzene and less than 100 ppm total aromatics.

CRITERION's 624 is a versatile catalyst for use in either liquid or vapor phase reactions. It also can be successfully used in blocked out operations.

## 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.

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### HOUSTON:

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

### ENGLAND:

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

### CANADA:

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

### SINGAPORE:

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

### DUBAI:

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

**EMAIL:** [CriterionPublicAffairs@cri-criterion.com](mailto:CriterionPublicAffairs@cri-criterion.com)