

# ENERGY EXPERT: ISSUES IN FOCUS

A quarterly review of disputes and complex issues in the hydrocarbon production and processing industries.

Baker & O'Brien, Inc.

[www.bakerobrien.com](http://www.bakerobrien.com)

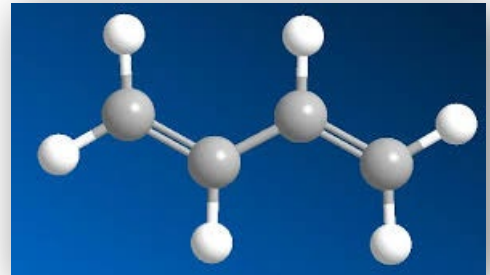
April 2021

## When Petrochemicals Go Bad: Who's to Blame for Off-Spec Cargo?

### Litigation, United States

By Kevin Waguespack

Although the occurrence is not common, some petrochemical products have a limited "shelf life" and, over time, become degraded to the point they become unusable. This is the case with butadiene, a base petrochemical used to manufacture rubber products such as automobile tires. Butadiene, an "unsaturated" coproduct from naphtha steam cracking operations (where ethylene is the primary product), is naturally more reactive than saturated hydrocarbon molecules, like butane, which shares the same number of carbon atoms. Similar to butane, butadiene is stored in a liquid state under pressure. Due to its chemical structure, it can naturally self-react to form a "dimer" molecule that is undesirable in the rubber-producing process. Although the reaction is impossible to stop at elevated temperatures, it can be inhibited by keeping the product cold (near 32°F).



Source: University of Bristol, School of Chemistry  
<http://www.bris.ac.uk/chemistry/>

A waterborne cargo of butadiene was assembled from several production sources in Western Europe by a petrochemical trader. The cargo constituents were loaded into a specialized ship with product refrigeration capabilities. The vessel transported the butadiene cargo to the U.S., with the voyage taking about three weeks. This occurred during the summertime when ambient temperatures were elevated. Upon arrival, the cargo was determined to be off-specification due to a very high content of dimer.

The purchaser of the butadiene cargo filed an action against the petrochemical trader who, in turn, attributed the cause of the off-spec cargo to inadequate refrigeration on the vessel. Baker & O'Brien was asked to examine the records and make a determination of the likely cause of the off-specification cargo. Considerations included whether: 1) the ship maintained the

butadiene at its proper temperature; 2) the ship compartments could have been contaminated before the cargo was loaded; or 3) one or more of the original constituents of the cargo loaded in Europe were off-specification.

Baker & O'Brien submitted an expert report and provided deposition testimony on this matter.

## Refinery Construction Dispute – Expanding Liquidated Damages Claim

### Arbitration, Western Europe

By Bill Jackson

Lump Sum Turn-key engineering, procurement and construction (EPC) contracts generally include provisions for liquidated damages that may result from either poor performance or delay. Contract clauses for liquidated damages define limits of liability and detailed calculations for determining the amounts required to resolve contract claims. Arbitration tribunals typically consider damage awards within the contract limits of liability unless one of the parties can demonstrate an extreme circumstance, such as willful misconduct or gross negligence.



Following completion of a major refinery project, a dispute arose between the owner and the EPC contractor concerning schedule delay, construction quality, and project management. The owner claimed that the liquidated damages provisions in the contract were not adequate to cover its lost production and other costs. The owner sought to expand its claim by asserting a complaint of gross negligence against the

EPC contractor. The EPC contractor responded that it was liable only for contractual liquidated damages because its actions were in line with actions that any contractor would have taken under the circumstances of the project. For example, the EPC contractor asserted that much of the delay resulted from weather events that were outside of its control and that alleged quality issues were diligently and satisfactorily resolved.

Baker & O'Brien was engaged to evaluate the EPC contractor's performance with respect to its planned project management, quality control, and project control practices. We compared the EPC contractor's planned and actual performance to industry benchmarks to determine if the EPC contractor's actions were reasonable and, if not, the extent of any deficiencies. Our consultants submitted expert and rebuttal reports, and provided testimony at the evidentiary hearing.

## Business Losses from Termination of Crude Oil Supply Agreement

### Litigation, North America

By Dan Finelt

With the rapid growth of U.S. domestic crude oil production in recent years, more and more U.S. refineries began maximizing the volume of domestic low sulfur crude oil being processed.



crude oil, a common pricing benchmark for crude oil transactions on the USGC. When quality issues were

One such U.S. Gulf Coast (USGC) refiner entered into a series of crude oil supply contracts with a USGC terminal operator to provide monthly shipments of domestic crude oil to their refinery. Each of these agreements included a formula price based on a discount to Louisiana Light Sweet (LLS)

identified in two of the crude oil shipments, the refiner cancelled all future crude oil deliveries and terminated their relationship with the crude oil supplier.

Baker & O'Brien was retained to evaluate the future lost profits associated with the termination of the crude oil supply agreement between the supplier and the refiner. In order to calculate a lost value for future crude oil sales to this refiner, we reviewed the pricing formula for each of the previous contracts associated with the refiner compared to alternative customers and their respective pricing formulas. We then evaluated the contract value differences between the original refiner purchaser and other alternative customers who ultimately purchased the crude oil.

Following the development of an expert report, the matter was settled.

## Consulting Support for Complex Commercial Disputes

When faced with complex commercial disputes in the energy-related industries, clients often turn to Baker & O'Brien for its independent and objective support. For over 25 years, the firm's consultants have employed their engineering knowledge, industry experiences, and commercial acumen to provide assistance on a wide range of matters. Our project experience includes disputes involving operational incidents, standards of care, asset valuation, commercial supply terms, product quality, large engineering and construction projects, and intellectual property.

Our clients include many of the world's largest law firms, insurance providers, and operating companies. Law firms rely upon Baker & O'Brien to evaluate

technical and commercial aspects of a case and provide expert testimony. Our analyses, conclusions, and expert testimony have been heard by judges, juries, and arbitration panels around the world. On insurance matters, clients rely upon Baker & O'Brien's assistance for investigation of industrial accidents and quantification of resultant property damage and business interruption losses. We are also called upon to assist insurers in subrogation actions by evaluating causation theories and claims for damages.

We welcome the opportunity to discuss our qualifications in more detail as they relate to your specific area of interest.

### Dallas Corporate Office



12001 N. Central Expressway  
Suite 1200  
Dallas, TX 75243  
Phone: 1-214-368-7626

### Houston



1333 West Loop South  
Suite 1350  
Houston, TX 77027  
Phone: 1-832-358-1453

### London



146 Fleet Street  
Suite 2  
London EC4A 2BU  
Phone: +44-20-7373-0925

*Baker & O'Brien, Inc. is an independent, professional consulting firm specializing in technology, economics, and management practice for the international oil, gas, chemical, and related industries.*

[www.bakerobrien.com](http://www.bakerobrien.com)