


gasoline yields and higher octane values.

For many years, Süd-Chemie has allocated significant resources in the field of catalyst production for alternative fuel production. Following the development of the innovative catalysts for GTL production, Süd-Chemie is also well positioned to offer solutions for every step of CTL and BTL applications, namely feedstock purification, syngas generation, syngas purification, Fischer-Tropsch synthesis and product upgrading. By using Süd-Chemie's feed purification (ActiSorb®), primary reforming (ReforMax®) and low temperature shift catalysts (ShiftMax®), customers can achieve improved hydrogen capacity which is crucial to the successful operation of a modern refinery. The ActiSorb® G1 catalyst allows the use of single material for hydrogenation of organic sulfur compounds and subsequent hydrogen sulfide


absorption. A new design concept is now possible due to the bi-functional property of ActiSorb® G1 which would result in significant investment cost savings.

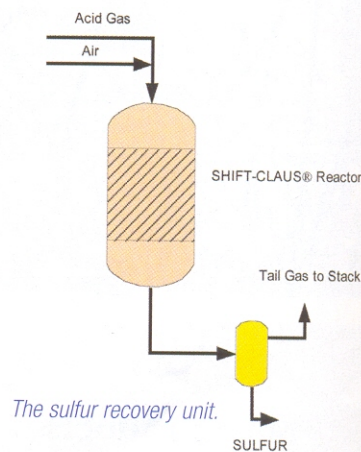
In the area of olefin polymerisation, Süd-Chemie offers C-MAX®, a series of Ziegler-Natta catalysts which are highly optimised for the manufacture of polypropylene. It is suitable for a variety of different polypropylene production process platforms. C-MAX® catalysts enable PP producers to manufacture their entire product range with high activity, excellent operational control and competitive operational cost. C-MAX® catalysts are commercially well proven in several units both for major bulk loop/gas phase and CSTR processes.

Süd-Chemie has five catalyst R&D centres worldwide which are located respectively in Germany, USA, Japan, Italy and India for developing tailor made solutions for its global customer base. 

TKK TECHNOLOGY COMPANY

TKK Technology Company (d.b.a. TKK Company) is a unique technology engineering company based in Houston, Texas, USA. In alliance with engineering and construction companies, TKK Company designs, fabricates and supplies commercial units for oil refineries and gas plants globally. The portfolio of TKK Company includes proprietary catalysts for patented SHIFT-CLAUS® and TC™ processes of sulfur recovery. This application can lead to sulfur recovery of up to 99% in regular Claus units. One of the advantages of this catalyst is the involvement of COS/CS₂ of acid gas in the sulfur recovery process. Application of catalyst for TC™ processes allows the recovery of sulfur from 'weak' acid gases containing less than 32% of H₂S. This process avoids unsafe operation of the Claus unit with split flow configuration. The company has developed and possesses special knowledge on the manufacturing of these catalysts.

In alliance with other corporations, TKK Company is in the process of commercialising both these catalysts for SHIFT-CLAUS® and TC™ processes. SHIFT-CLAUS® is a registered trade mark of TKK Company. 



TRICAT

TRICAT continues to build upon its reputation as a business that offers a broad spectrum of creative, value added solutions to the refining and petrochemical industry. In operation for over 15 years, TRICAT has established itself as a leader in the catalyst services industry. TRICAT business segments include catalyst regenerative services, remedial processing in advance of base or precious metal recoveries, active purchase and resale of a broad spectrum of catalytic products, XpresSTM ex-situ catalyst pre-activation services, guardian grading systems and materials, catalyst restoration or rejuvenation, catalyst asset management, and specialty zeolite and catalyst additive technologies. Each of these facets of TRICAT operations function with the same objective of enhanced performance and efficiency within the context of adding greater value for our customers.

The catalyst services industry has matured to become an integral part of the refining community. This industry serves to aid in capitalising on the fullest value of catalytic assets via regenerative processing of worthy materials, as well as the responsibility of helping place these assets back into services that can most benefit refiners. The demand for TRICAT services has led to a doubling of capacity slated to come on stream in early 2008. TRICAT concentrates on these critical service aspects through exhaustive quality

control procedures coupled with the objective experience and expertise necessary to ensure customers attain the highest possible catalytic value. This focus and attitude has led to many related business opportunities of the same nature. Guardian grading systems and materials are proven products that enhance and prolong fixed bed catalyst performance through resistance to pressure drop elevation and maldistribution. Ensuring maximum recovery of precious metals has led refiners to utilise staged regenerative catalyst processing in order to avoid carbon penalties, lower recovery costs, and realise greater precious metal capture.

More recently, TRICAT has become centrally involved in the spawning industry of catalyst rejuvenation. TRICAT works closely with leading fresh catalyst manufacturers to provide the regenerative processing necessary for these unique restorative processes. In addition, providing proven rejuvenation steps at TRICAT's own facilities will soon unfold, adding even greater flexibility and performance choices in refiners overall catalyst management strategies. TRICAT has also entered the base metal recovery industry, offering refiners with the confidence of a secure, dependable, and environmentally responsible channel to recover spent catalyst base metal value. 