

**Capacity:** 20,000 BPD

**Raw Materials:** Butane

**End Products:** Isobutane (High Purity iC4)

**Year Built:** 1982

**Process Information**

Three products are taken from the C4 Isom:

- Liquid isobutane (iC4) with 3-6% of butane (nC4) and isopentane (iC5). This product is a feed for the Alkylation Unit. Typically it has a product composition of 95 mol% isobutane, with the remaining comprising of 3 mol% n-butane and 2 mol% propane.
- Butane Drag Stream from the reactor loop which contains nC4 and heavier hydrocarbons. The stream comprises mainly of isobutane and n-butaness but has about 5-7 mol% of heavier hydrocarbons (C5+ or heavier). The purpose of this stream is to act as a purge stream for the heavier hydrocarbons.
- Reactor Feed Rate = 50-100 m3/hr
- Reactor Pressure Drop = 0-1 bar
- Reactor Pressure = 34 barg
- Lead Reactor Inlet Temp = Min 120°C, Avg. 170-200°C
- Lag Reactor Inlet Temp = Avg. 140-180°C
- Total Reactor Exotherms = 20-30°C (Lead), 0-15°C (Lag)

## 20,000 BPD C4 Isomerization Unit for Sale



### BRIEF PLANT DESCRIPTION

The C4 Isom converts normal butane into isobutane through Isomerisation reaction. This process is important to produce high purity iC4 for the use on the Refinery's Alkylation Unit. The Isomerisation process takes place in four stages: The drying stage where catalyst contaminants are removed (mostly water). The Deisobutaniser (DIB) separation stage where iC4 are separated from nC4 and heavier hydrocarbons. The reactor circuit where the Isomerisation reaction converts nC4 into iC4. The stabiliser section where light ends from the reactor rundown stream are removed as off gas. The C4 Isom has two main feed streams: Imported refrigerated of normal and isobutane mixtures, the composition of which varies between 0-50% iC4 depending economic drives and unit operation/strategy. The normal composition is about 60% nC4 and 40% iC4. If we have 100% IC4 the ISOM unit will be bypassed. Hydrogen Rich Gas comes from the Continuous Catalytic Reformer, this contains approximately 86% Hydrogen (H2).

**For more information contact -**

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