

A large industrial gas processing facility at night, illuminated by numerous bright lights. In the foreground, two large white storage tanks are visible. The left tank has the word "JEFFTREAT" with a registered trademark symbol, and the right tank has "DGA" with a registered trademark symbol followed by the word "Agent". In the background, there are tall distillation columns and a complex network of pipes and structural steel. The ground is wet, reflecting the lights.

JEFFTREAT®

DGA® Agent

Innovative Solutions

for Your Gas Processing Needs

HUNTSMAN

Enriching lives through innovation



Guaranteed Solutions for Your Gas Processing Needs

Huntsman has been a leader in gas processing technology for more than 60 years. The company offers a wide gas treating portfolio, including DGA[®] Agent, JEFFTREAT[®] solvents, and additives like JEFFTREAT[®] AO-832 and AF-61. Huntsman also offers licensed technology packages that can be customized to meet specific acid gas removal needs. This enables our customers to benefit from our reliable and guaranteed technology, while minimizing their risk.

As a leading manufacturer and licensor of multiple gas treating technologies, Huntsman can leverage the technical and project management expertise of its team to deliver our guaranteed licensing solutions. From planning to production, our licensing team relies on Huntsman's proprietary technologies to add value to our customers' business.

Comprehensive Service and Support

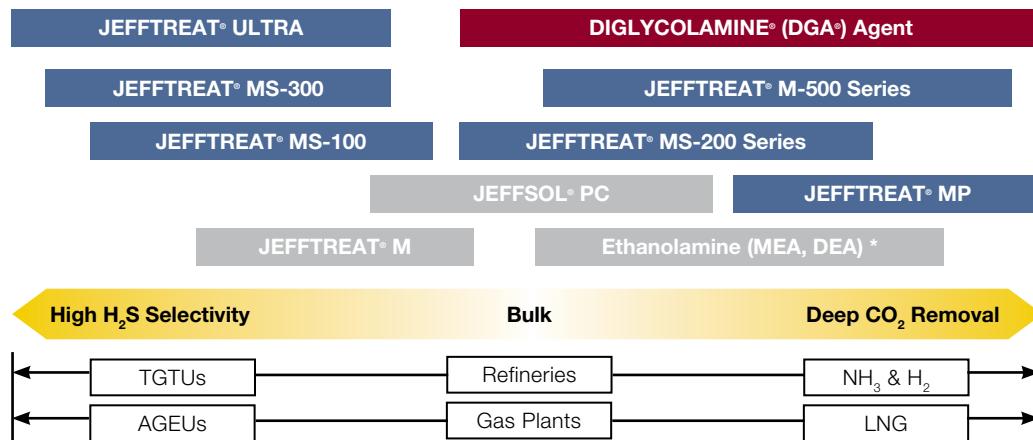
Huntsman offers a comprehensive licensing approach, starting with plant design through start-up, operator training and follow-up. With this approach, Huntsman is able to provide support throughout the licensing lifecycle on specific aspects, including:

- Process assessment, planning and design
- Provision of basic engineering data and relevant technical support
- Process start-up and on-site support

Complete Solutions

With proprietary amine and non-amine technologies, Huntsman is one of the few chemical manufacturers that offer a broad portfolio of gas treating products. Coupled with our global manufacturing footprint, our attention to product quality, competent technical support and state-of-the-art analytical service, our licensing team is able to guarantee the reliability of your gas processing facilities.

Huntsman Solvents for Acid Gas Processing



* Supplied by others but included for comparative purposes

Specialty Amines

- **DIGLYCOLAMINE® (DGA®) Agent** is included in the Huntsman line of gas treating solvents. Our 2-(2-aminoethoxy) ethanol is widely used as a gas scrubbing agent. It is a solvent of choice for a number of difficult low-pressure and high-temperature gas treating applications, as well as LNG pre-treatment and trace sulfur removal.
- **JEFFTREAT® M-500** series of formulated solvents is specially designed for bulk and deep CO₂ removal applications.
- **JEFFTREAT® MS-300** solvent is specially formulated for TGTU applications or other units requiring very low residual H₂S and additional CO₂ slippage.
- **JEFFTREAT® MS-200** series of MDEA-based solvents is formulated for tailored bulk CO₂ removal applications in the presence of significant amounts of H₂S.
- **JEFFTREAT® MS-100** solvent is specially formulated for selective H₂S applications, where appreciable CO₂ slip is needed. These applications include high-pressure natural gas, refinery gas or Claus off-gas treating (TGTU).
- **JEFFTREAT® MP** solvent is formulated to provide deep removal of CO₂ from gas processing applications, such as LNG pre-treatment plants, hydrogen production, ammonia manufacture and cryogenic gas processing.
- **JEFFTREAT® ULTRA** solvent contains a newly engineered molecule ideal for Tail Gas Treating Units or other high selectivity applications even at very high sour gas inlet temperatures. Shorter Absorbers, lower solvent circulation rates, and the potential elimination of inlet gas cooling makes this the solvent of choice for deeper removal of H₂S with the maximum slippage of CO₂.

Commodity Solvents

- **JEFFSOL® Propylene Carbonate (PC)** is used for CO₂ removal in natural gas, ammonia synthesis gas and hydrogen gas streams with high CO₂ and low H₂S partial pressures.
- **JEFFTREAT® M** is available within the JEFFTREAT® product line. This solvent is for customers who choose to utilize generic methyl diethanolamine (MDEA) rather than a formulated MDEA solvent.

Customized Process Solutions

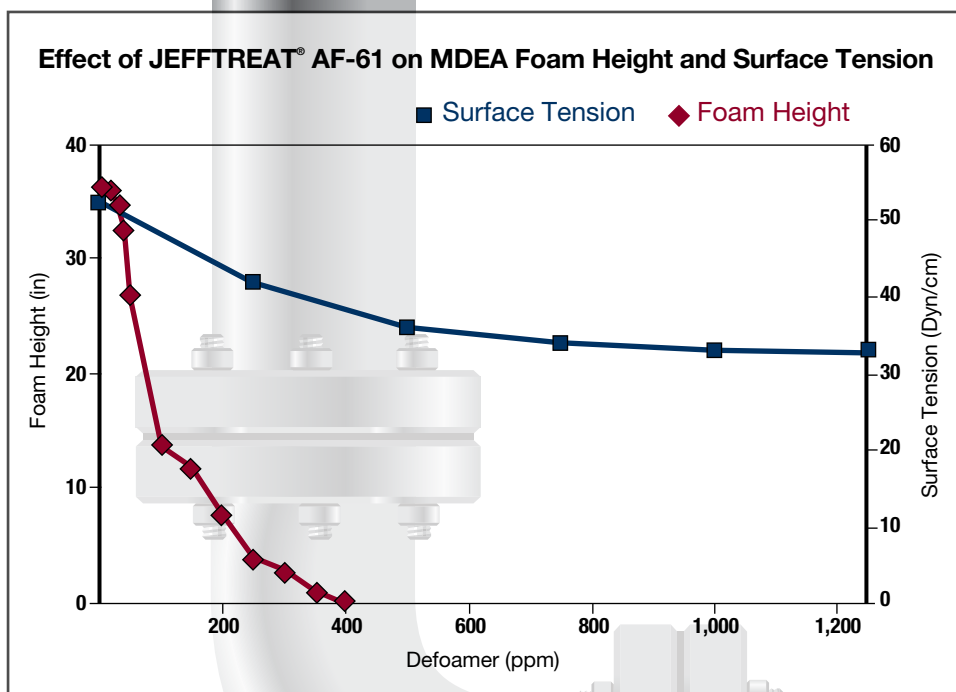
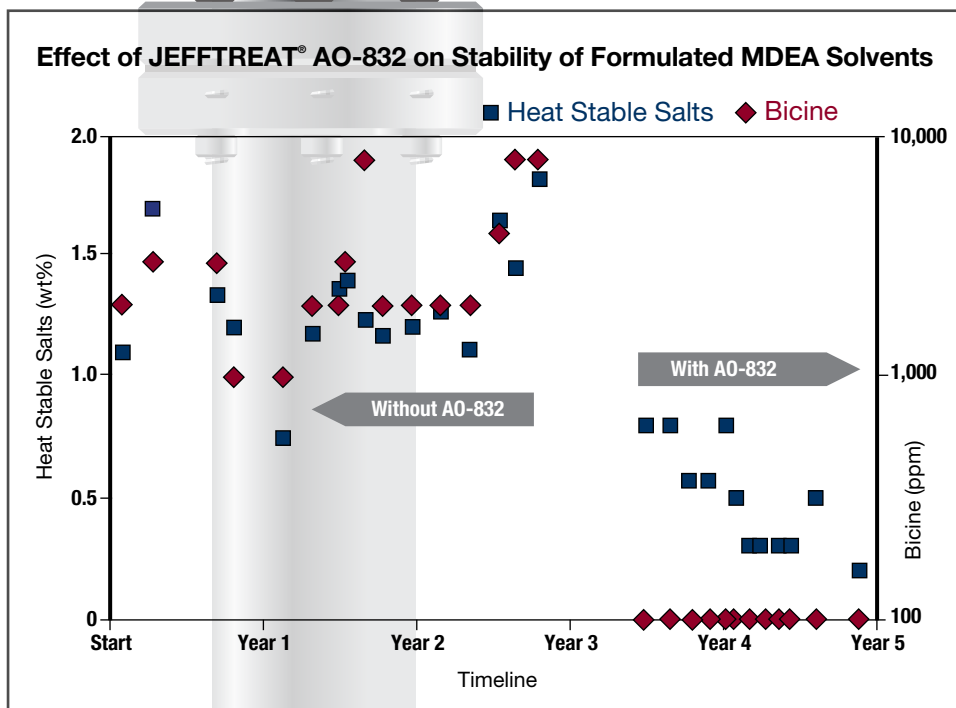
Specially tailored solutions can be developed for the following applications:

- CO₂ removal for liquefied natural gas (LNG) pre-treatment plants using DGA® Agent and JEFFTREAT® MP solvents
- Selective hydrogen sulfide (H₂S) removal using JEFFTREAT® ULTRA, MS-300 and MS-100 solvents
- Gas sweetening by H₂S and CO₂ removal from natural gas streams using DGA® Agent and JEFFTREAT® M, M-500 and MS-200 series of specialty solvents

Maximizing Performance with our Additives

JEFFTREAT® AO-832 additive is an innovative gas treating additive that hinders the oxidative attack of amines and greatly reduces amine degradation.

- Performs by interfering with the oxygen radical in the degradation process
- Not designed as an oxygen scavenger
- Shown to successfully reduce bicine formation from MDEA and formulated MDEA solvents
- Minimizes heat stable salt formation in gas treating amines

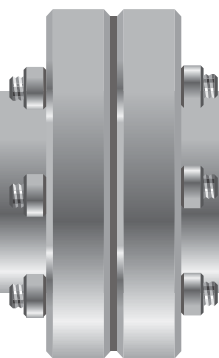


JEFFTREAT® AF-61 additive hinders foaming in amine solvents.

- Superior performance at elevated operating temperatures
- Compatible with all Huntsman gas treating amines
- No detrimental effects on performance from overfeeding
- Performance comparable to silicone based anti-foaming additives



When you make Huntsman your supplier of choice for your gas treating chemical requirements, you get demonstrated technology and performance-oriented service. Since 1950, Huntsman Corporation (formerly Jefferson Chemical Company/ Texaco Chemical Company) has helped our customers find more effective ways to solve their gas treating problems. Huntsman Corporation supplies a range of gas treating chemicals worldwide to the gas conditioning industry for the removal of H_2S and CO_2 in refinery and produced gas streams, as well as synthesis gas, hydrogen and ammonia applications.



Reliable Technical Service and Support

With over 60 years of gas processing experience our team of experienced engineers can assist with:

- Design and operation of gas treatment units
- Design and operating parameter estimates using our QUICKTREAT™ App
- Start-up and turnaround assistance
- High quality sample analysis
- Process monitoring and optimization
- Operational trouble shooting
- Operator and engineer training



Comprehensive Analytical Support

Huntsman provides comprehensive analysis, including corrosion analysis, amine degradation testing, and contamination analysis. Our world scale lab located at The Woodlands, Texas, offers:

- Routine analysis including color, metals, water content, and amine strength
- Periodic analysis including amine strength, gas loading, foaming, and heat stable salts



Ideal Innovation Partner

- Respect for our customers' role in the value chain
- Diverse range of gas treating products
- Access to extensive molecular libraries
- Effective cross-market technology utilization
- Global manufacturing footprint



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Global Headquarters Americas

Huntsman Corporation
10003 Woodloch Forest Drive
The Woodlands, Texas, 77380
USA
Tel : +1-281-719-6000

Asia Pacific

Huntsman Performance Products
No. 455 Wenjing Road
Minhang Economic & Technological
Development Zone
Shanghai 200245
P. R. China
Tel : +86-21-3357-6588

Europe, Middle East & Africa

Huntsman Performance Products
Everslaan 45
B-3078 Everberg
Belgium
Tel : +32-2-758-9544

**For more information, please contact
your local Huntsman representative
or drop us an email at
gas_treating@huntsman.com**

About Huntsman

Huntsman Corporation is a publicly traded global manufacturer and marketer of differentiated and specialty chemicals with 2020 revenues of approximately \$6 billion. Our chemical products number in the thousands and are sold worldwide to manufacturers serving a broad and diverse range of consumer and industrial end markets. We operate more than 70 manufacturing, R&D and operations facilities in approximately 30 countries and employ approximately 9,000 associates within our four distinct business divisions. For more information about Huntsman, please visit the company's website at www.huntsman.com.

Huntsman Performance Products

Performance Products brings together innovation and world-leading process technologies to produce components used to formulate products that enhance people's lives. Our leading global positions in the manufacture and sale of amines, maleic anhydride and carbonates enable us to serve diverse consumer and industrial end markets, including energy, automotive and transportation, coatings and adhesives, construction and infrastructure, electronics, and industrial manufacturing. With 10 manufacturing facilities in North America, Europe, the Middle East and Asia, we produce and sell over 350 products to over 900 global customers, and provide extensive pre- and post-sales technical service support. The division had 2020 revenues of USD 1 billion.

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