



Oil & Gas

ACID GAS REMOVAL FOR NATURAL GAS APPLICATIONS



FROM DOW OIL & GAS

YOUR SOURCE FOR INNOVATIVE SOLUTIONS FOR MORE THAN 65 YEARS

For more than 65 years, Dow innovations have led the way in gas treating. Today, Dow Oil & Gas offers you one of the broadest and most in-depth portfolios of acid gas removal products, services and technologies for natural gas applications in the world. UCARSOL™ solvents, specialty amines and specialized technologies – coupled with the exceptional knowledge and experience of Dow people – bring you advanced solutions for your natural gas processing plant.

LET US ANALYZE YOUR NEEDS WITH A FREE ACID GAS EVALUATION

If you wish to implement a new acid gas removal program in your operation or fine-tune your existing program, we're standing by to help. We have technical service professionals specifically dedicated to meeting your gas treating needs.

Take advantage of our free evaluation to obtain an in-depth analysis of your operation and our recommendation for a custom solution to acid gas removal at your facility. Simply call the Dow location serving your area, or visit our website at www.DowOilandGas.com, and request a copy of our Amine Process Evaluation Form. Once we have received your completed form, we will conduct the analysis immediately and contact you with the results.

CONVERTING AN EXISTING AMINE UNIT TO A DOW SPECIALTY AMINE UNIT CAN HELP YOU:

- Reduce energy consumption
- Increase capacity
- Reduce maintenance costs

DOW OIL & GAS – A GLOBAL LEADER IN NATURAL GAS TREATING

Whether you require total or selective acid gas removal, Dow Oil & Gas has advanced solutions for your natural gas treating needs. We are a global leader in the removal of H₂S, CO₂ and trace sulfur, supplying specialty amine solvents to some of the largest gas processing plants in the world, treating some of the most difficult gases. We also have a fully dedicated technical service team who will work with you to determine your unique needs, develop a customized solution for your operation, and support you at every step along the way.

With Dow Oil & Gas, you benefit from our advanced application knowledge, which can help you meet your acid gas removal requirements and reduce your capital investment and operating costs. In every sales proposal, you will receive clear, quantifiable performance benefits. Our exceptional technical service support includes an in-house process simulator to perform process evaluations and model your current and future gas treating needs; state-of-the-art pilot plants that can mimic your process; ongoing analytical support from our labs and experienced technical service engineers available for consultation on your amine applications.

Dow Oil & Gas can help you add value at every level of your operation.

WE ARE A GLOBAL LEADER IN GAS TREATING

Dow Oil & Gas:

- Has more than 65 years of gas treating experience
- Stands behind every product we manufacture
- Offers distribution points across the globe
- Has a global technical service team with generations of experience
- Features excellent analytical capabilities to determine the unique needs of your operation
- Is the largest manufacturer of ethanolamines, isopropanolamines and alkanolamines in the world today
- Offers the tremendous chemistry and technology expertise of Dow, a global powerhouse in chemistry for more than a century

TRUST DOW OIL & GAS

Dow Oil & Gas, a recognized leader in gas treating technology, marries gas treating technology with the chemistry powerhouse of The Dow Chemical Company, one of the world's largest chemical companies.

Dow combines the power of science and technology with the “Human Element” to passionately innovate what is essential to human progress. Dow’s diversified, industry-leading portfolio of specialty chemical, advanced materials, agrosociences and plastics businesses delivers a broad range of technology-based products and solutions to customers in approximately 160 countries and in high-growth sectors such as electronics, water, energy, coatings and agriculture. Dow manufactures more than 5,000 products at 214 sites in 37 countries across the globe.

Dow has been at the forefront of gas treating technology for more than 65 years. Our specialty amine solvents and technologies are recognized as some of the most advanced solutions available in the industry for natural gas treating.

Dow’s dedication to innovation – coupled with the company’s longstanding commitment to Research & Development and Environment, Health & Safety – contributes to the ongoing development of new generation products, technologies and services to meet the emerging needs of the gas treating industry.

Dow Oil & Gas is committed to providing the advanced technologies, chemistries and experienced support Dow customers have come to expect. We work with customers individually to identify needs and implement cost-effective acid gas removal solutions tailored to meet specific requirements. This commitment is supported by our portfolio of advanced specialty amine solvents.

OUR OFFERINGS

Dow Oil & Gas offers one of the broadest portfolios of products for removing contaminants from natural gas, allowing us to customize selectivity to efficiently treat the gas based on your specifications. Our proven, drop-in chemical technology offering includes a variety of products from the well-known UCARSOL™ and SELEXOL™ lines to meet your natural gas treating needs, and is backed by more than 800 references worldwide.

By selecting advanced, specialty solvents and offering exceptional technical service tailored to your needs, Dow helps enable the success of your natural gas processing plant from design to operation. If you have any questions about how Dow specialty solvents can be used to improve your operation and reduce costs, please contact us.

- **Selective CO₂ Removal** – The UCARSOL™ AP series offers selective CO₂ removal for pipeline specifications improving cryogenic quality in one unit operation; reducing corrosivity, increasing capacity and saving energy
- **Acid Gas Enrichment & Tail Gas Treating** – The UCARSOL™ HS series is a cost-effective, proven solution where selective separation of CO₂ and H₂S is required
- **Mercaptan Removal** – The UCARSOL™ LE series is an innovative option for applications where significant amounts of mercaptans are present and reduced energy use is desired
- **Bulk Removal of Acid Gas** – SELEXOL™ physical solvent is a cost-effective option for those seeking bulk removal of CO₂, H₂S, and trace sulfur
- **Liquid Hydrocarbon Treatment** – Dow has special offerings that can be used to treat liquid hydrocarbons to remove unwanted acid gas

GAS TREATING CHELATES FOR REDOX TECHNOLOGY

When hydrogen sulfide is removed from natural gas streams through the use of amines, chelates can be required to convert the resulting concentrated H₂S stream into elemental sulfur. Dow offers special chelates to help abate the H₂S by direct conversion. Chelates can also be used for the direct removal of low levels of H₂S from varied natural gas streams – again converting into elemental sulfur.

Dow's line of IC chelants and process conditioning agents is supported by the industry's only dedicated analytical lab and backed by the technical service that only decades of experience can bring.

CLEANING GAS TREATING SYSTEMS – UCARKLEAN™

Dow developed UCARKLEAN™ solutions to provide the gas treating plant operator a cost-effective means for removing foulants from an amine unit. UCARKLEAN™ effectively removes scale, grease and the hydrocarbon-agglomerated iron sulfide foulant common to amine systems.

The UCARKLEAN™ system offers important advantages over other cleaning methods:

- **Easy to use**

- UCARKLEAN™ solutions are easy to handle. They are mixed together and diluted with water in the system.

- **Advanced cleaning properties for scale, sludge and grease**

- **Less expensive than “full service” chemical cleanings**

- UCARKLEAN™ solutions can be employed either by plant operators or with Dow assistance, avoiding unnecessary costs.

- **Non-flammable and non-caustic**

- **Contains no heavy metals**

- **No neutralization or equipment disassembly required**

- **Smooth, uneventful start-up after cleaning**

EXCEPTIONAL TECHNICAL SERVICE – AMINE MANAGEMENTSM PROGRAM

When you select Dow for your gas treating needs, you get much more than just pounds of product – you also get exceptional technical service. Every time you place your trust in Dow, you will also receive all the enhancements our team can bring you through our AMINE MANAGEMENTSM Program.

The AMINE MANAGEMENTSM Program enhances the results of Dow specialty solvents by utilizing Dow engineering experience, chemistry understanding and developed technologies at your facility. Our expertise in actively evaluating solvent needs through periodic, comprehensive amine unit surveys can result in recommendations to generate various economic and performance benefits:

- Reduced energy use
- Additional unit capacity
- Maximized solvent life / Reduced amine consumption
- Restored operational reliability
- Reduced contaminants and corrosion
- Personnel training
- New unit design assistance

In the AMINE MANAGEMENTSM Program, customers can take advantage of routine technical service visits to check on operations and make enhanced recommendations to further improve performance. If conditions change, we can perform a new evaluation. We perform solvent analyses on a routine basis, and trend data against past solvent analyses. With ongoing services, problems can often be identified early and corrected before they become serious.

Dow has gas treating laboratories worldwide dedicated to performing state-of-the-art analytical procedures for our customers. These solvent analyses can include:

- Amine concentration
- Acid gas loadings
- Heat-stable salt concentration
- Foaming tendency
- Ion chromatography for heat-stable salt anions
- ICP and atomic absorption metals analyses
- Gas chromatography
- Corrosion monitoring and other specialized analyses



TO LEARN MORE...

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**Toll free service not available in all countries.*



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For more information, visit www.DowOilandGas.com.

Note: This guide is designed as a general product overview. Please contact your local Dow Oil & Gas representative for up-to-date, detailed technical information including registrations and use limitations and to discuss individual applications or requirements.

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