



## PRODUCT INFORMATION

# UCARSOL™ HS 102 SOLVENT

## FOR SELECTIVE H<sub>2</sub>S REMOVAL

### INTRODUCTION

UCARSOL™ HS 102 solvent, one in a series of high-performance gas treating solvents from The Dow Chemical Company, is designed to selectively remove H<sub>2</sub>S in preference to CO<sub>2</sub>. The product has been specially formulated for use in treating both low-and high-pressure natural gas streams where high selectivity is desired. Of particular importance, UCARSOL HS 102 solvent can be used in systems operating at pressures that are too low for most commonly used solvents.

UCARSOL HS 102 solvent represents a significant advance in state-of-the-art technology because it can remove a much greater amount of H<sub>2</sub>S than methyldiethanolamine (MDEA), even diethanolamine (DEA) or monoethanolamine (MEA). This feature can be exploited to achieve four ppm H<sub>2</sub>S at lower pressures and higher absorber temperatures than are possible with conventional amine solvents. UCARSOL HS 102 solvent is much more selective than such commonly used solvents as diisopropanolamine (DIPA) and MDEA. Compared to MDEA, improvements in selectivity of up to 15-20 percent are achievable, resulting in corresponding decreases in operating and capital costs.

### SPECIAL FEATURES

UCARSOL™ solvents offer these important special advantages:

- Significant energy savings through reduced reboiler duty, decreased pumping requirements because of lower solvent circulation, and elimination of solvent reclaiming
- Reduced solvent loss because of low foaming tendency and lower solvent vapor pressure
- Increased acid gas processing ability within facilities
- Technical support and complete solvent services ensure ongoing, trouble-free operation

### CORROSION EFFECTS

The results of actual field experience in numerous operating units indicate that solutions of UCARSOL™ HS solvents, if maintained properly and used as specified, exhibit very low corrosion rates.

## **GAS TREATING SERVICES**

Dow is a worldwide leader in providing gas treating processors with specialized technology and services. To aid in both plant design and operation, UCARSOL™ solvents are supported by advanced computer capabilities, state-of-the-art laboratory, field test equipment, analytical procedures and an optimization program. The services Dow provides encompass preliminary assessments, start-up services, continual monitoring, and follow-up services. Included in this total support program are the training for people in the field, regular sample testing and performance evaluation. To ensure complete customer protection and satisfaction, Dow is there every step of the way – before, during, and after installation.

## **COMPUTER CAPABILITIES**

With information drawn from actual operating conditions of over 800 plants, Dow has an extensive formulated solvent database used to optimize the simulation programs used in design. This sophisticated computer program provides a powerful tool for process analysis and design, including tray-by-tray calculations. Hydraulic evaluations can be made of existing trayed or packed towers to ensure that conversion to UCARSOL™ solvents will be trouble-free.

Field representatives have the latest equipment and programs that make it possible to predict the performance of UCARSOL solvents under actual plant conditions. In addition, their use as an in-field preliminary design tool is extremely valuable after conversion to make any adjustments necessary to optimize the process.

## **LABORATORY AND FIELD TESTING**

The Dow Analytical Service Laboratories perform regular service analyses of customer solvents to ensure good performance of the amine unit, as well as specialized analyses to assist in trouble-free operation. Among the routine analyses performed are ion chromatography, atomic absorption and solution alkalinity. Specialized analyses include gas chromatography/mass spectroscopy, FTIR (Fourier Transform Infra Red), ICP (Inductively Coupled Plasma Spectroscopy), NMR (Nuclear Magnetic Resonance Spectroscopy) and x-ray fluorescence.

Analyses are normally completed and reported to the customer within a few days. A written report from Dow usually includes a technical service interpretation of the analytical results and their impact on the customer's operation.

### **SAMPLE KITS**

Dow offers a unique sample kit. Completely self-contained, the kit provides everything necessary — from containers to labels — to obtain lean and rich amine samples, and seal and safely ship them for routine analysis.

### **OTHER SERVICES**

Dow's engineering expertise is also available to provide information on process and equipment requirements. Our corrosion group can also assist in field inspections or set up corrosion-monitoring programs for customers. In addition, Dow can train customer personnel prior to and during conversion, following up with them to ensure optimal performance.

### **PRODUCT STEWARDSHIP**

When considering the use of any Dow products in a particular application, you should review Dow's latest Material Safety Data Sheets and ensure that they are intended for safe use. For Material Safety Data Sheets and other product safety information, contact Dow. Before handling any other products mentioned in the text, you should obtain available product safety information and take necessary steps to ensure safety of use.

No chemical should be used as or in a food, drug, medical device, or cosmetic, or in a product or process in which it may contact a food, drug, medical device, or cosmetic until the user has determined the suitability and legality of the use. Since government regulations and use conditions are subject to change, it is the user's responsibility to determine that this information is appropriate and suitable under current, applicable laws and regulations.

Dow requests that the customer read, understand, and comply with the information contained in this publication and the current Material Safety Data Sheet(s). The customer should furnish the information in this publication to its employees, contractors and customers, or any other users of the product(s), and request that they do the same.

**TO LEARN MORE...**

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Oil & Gas

**For more information, visit [www.DowOilandGas.com](http://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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