Technical Information

UCARSOL™ GT 900 Antifoam

For Gas Treating

Introduction

Dow has been at the forefront of gas treating technology for more than 60 years, attaining a leading position in amine chemicals, UCARSOL™ solvents and specialized technologies, such as SELEXOL™ solvents and the UCARSEP™ amine reclamation system. The development of new products, technologies and services is part of ongoing programs that provide for current and future gas treating industry needs.

One of the challenges Dow has addressed is the foaming occasionally experienced in gas treating systems. This problem is usually the result of contaminants entering or forming in the amine system, or improper operating conditions. The best cure for this problem is finding the cause and eliminating it. However, antifoams can be an effective interim, or even a long-term, cure if elimination of the cause is not possible.

Although antifoams have a wide range of applications in various industries, many formulations are not suitable for gas treating uses and can actually aggravate the problem. Based on extensive experience with commercial applications, Dow has developed the UCARSOL™ GT series of high-performance antifoams specifically designed for gas treating uses. UCARSOL GT 900 Antifoam, one of these specialized antifoam products, provides foam control in amine solvent and dehydration systems and improves overall performance.

Product Description

UCARSOL™ GT 900 Antifoam is particularly effective in controlling foam conditions caused by liquid hydrocarbon contamination in the process feed gas, or when cutting oil and/or packing oil is left in new equipment. Natural gas processing facilities and refinery facilities often encounter liquid hydrocarbon contamination, particularly when putting new equipment on line. Operators should consider using UCARSOL GT 900 Antifoam to control foaming in such situations.

Special Features and Advantages

A versatile foam control agent, UCARSOL™ GT 900 Antifoam provides these important advantages:

- Excellent antifoam durability when liquid hydrocarbon contamination is present
- Improved product quality for excellent foam control
- Quick foam knockdown
- Excellent mass transfer while controlling foam
- Ease of use
- Improved overall performance of the system in terms of separation and solvent loss
- Does not cause scaling in heat exchangers or physical build-up problems within the system
- Requires only low concentrations for effective foam control

Antifoam Services

On-site plant assistance and quick responses are service benefits that come with the use of UCARSOL™ GT Series Antifoams. An engineering consultant will provide technical assistance as to the use level and application procedure.

Our research and development laboratory facility has up-to-date equipment to provide analytical and foam-control troubleshooting capabilities for difficult-to-control systems. For answers to technical or support questions, contact Dow.

How to Use

UCARSOL™ GT 900 Antifoam performance is dictated by the activity of the foamant and system losses. It can be added to the aqueous system before foaming occurs. In the event of a foaming situation, this antifoam can be used at moderate levels as a defoamer to quickly regain system control. If a full-flow carbon filter is present, continuous addition is recommended. For slipstream, or if no carbon filtration is present, use either batch or continuous addition.

Generally, concentrations of 2 to 20 ppm UCARSOL™ GT 900 Antifoam are adequate to control foam in gas treating units. Typical concentrations are shown in Table 1. For specific recommendations or addition amounts, please contact Dow. With any foaming challenge, an attempt should be made to identify and eliminate its source. Your Dow technical representative can assist you in identifying the cause.

Table 1 • Concentration of UCARSOL™ GT 900 Antifoam

Concentration	Parts per million of UCARSOL™ GT 900 Antifoam (as received)
4 Pints in 5,000 Gallons	100
4 Pints in 10,000 Gallons	50
13 Ounces in 10,000 Gallons	10
2 Pints in 50,000 Gallons	5

Table 2 • Concentration of UCARSOL™ GT 900 Antifoam[1]

Pour Point, °C (°F)	-32 (-25.6)
Density at 25°C (77°F)	1.015
Weight per Gallon at 20°C, lbs	8.46
Coefficient of Expansion at 55°C, per °C	0.00079
Refractive Index	1.4525
Flash Point, Pensky-Martens Closed Cup (ASTM D93), °C (°F)	216 (420)

[1]The physical property data listed are considered to be typical properties, not specifications.

Storage and Handling

UCARSOL™ GT 900 Antifoam is stable in storage. When subjected to temperatures at or near the pour point, UCARSOL GT 900 Antifoam may freeze. Some of the heavier-molecular-weight fractions may settle (appearing like sedimentation) if the product reaches temperatures slightly higher than the pour point. Should this occur, use heat and agitation to ensure material is homogeneous prior to use. If heating is needed, use mild heating, preferably with circulation or agitation, as the product may discolor if overheated. Heat with warm water or low watt-density electrical heating tape so that the container temperature does not exceed 50°C. Low-pressure steam is also acceptable as long as circulation or agitation is provided.

After the product has been heated, it should be mixed thoroughly to ensure uniformity of physical properties. In general, it is a best practice to mix the product before use, even if it has not been frozen. Based on the product's toxicological, physical and chemical properties, normal precautions common to good manufacturing practice should be followed.

Table 3 • Shipping Data

Determined on typical commercial material. Containers and net contents subject to change without notice.

Average Weight per Gallon at 20°C, lbs	8.46
Coefficient of Expansion at 55°C, per °C	0.00079
Vapor Pressure at 20°C, mm Hg	<0.001
Pour Point, °C (°F)	-32 (-25.6)
Flash Point, Pensky-Martens Closed Cup (ASTM D93), °C (°F)	216 (420)
Type of Containers and Net Contents, lbs 5-gallon tight-head DOT 34, two piece HDPE pail, straight sides 55-gallon tight-head, DOT 17E steel drum, 22-1/2-inch diameter	 41.88 452
DOT Shipping Name	None
DOT Hazard Classification	None
DOT Identification No.	None
DOT Warning Label Required	None

Product Stewardship

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

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...

U.S., Canada, Mexico: 1-800-447-4369

Latin America: +55 11-5188-9222

Europe: Toll Free +800-3-694-6367*

(+32) 3-450-2240

Asia Pacific: Toll Free +800 7776-7776*

(+60) 3-7958-3392

Middle East and North Africa: +971 4 453 7000

Cairo, Egypt: +202 2 480 1462

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

For more information, visit www.dowoilandgas.com.

Printed in U.S. September 2013

Form No: 812-812-00226-0913BBI