



Technical Data Sheet

Propylene Glycol Animal Feed

General Description

Dow's Propylene Glycol Animal Feed (PG AF) * is a high purity grade of monopropylene glycol for use in animal feed applications. The product is manufactured by the high temperature and high pressure hydrolysis of propylene oxide (PO) with excess water. PG AF is a distilled product with a purity specification of min. 99.7% and is available from The Dow Chemical Company in drum, IBC and bulk quantities.

PG AF is a colorless, water soluble, hygroscopic liquid with practically no odor, medium viscosity, low vapor pressure and low toxicity.

PG Animal Feed is subject to good manufacturing practices, handling and good distribution practices required for uses in animal feed applications. Its specification is designed to meet the requirements of animal feed customers. Dow does not support the use of Propylene Glycol Industrial/Technical grade for animal feed applications.

Typical Component Properties

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| Chemical Name | 1,2-Propanediol |
| Formula | $\text{CH}_3\text{-CH(OH)-CH}_2\text{OH}$; $\text{C}_3\text{H}_8\text{O}_2$ |
| Molecular Weight | 76.10 |
| CAS Number | 57-55-6 |
| EINECS Number | 200-338-0 |
| Assay | > 99.7% by weight |
| Water | < 0.2% by weight |
| Boiling Point, 101.3 kPa (1 atm) | 187°C (369°F) |
| Distillation Range, 101.3 kPa (1 atm) | 186–189°C (367°F–372°F) |
| Vapor Pressure, 20°C (68°F) | 0.011 kPa (0.08 mm Hg) |
| 25°C (77°F) | 0.017 kPa (0.13 mm Hg) |
| Freezing Point | Super cools |
| Pour Point | < -57°C (-71°F) |
| Specific Gravity 20/20°C (68/68°F) | 1.038 |
| 25/4°C (77/39°F) | 1.033 |
| 60/4°C (140/39°F) | 1.007 |
| Refractive Index n ₂₀ /D, 20°C (68°F) | 1.4310–1.4330 |
| Viscosity, 25°C (77°F) | 48.6 centipoise (mPa.s) |
| 60°C (140°F) | 8.4 centipoise (mPa.s) |
| Specific Heat, 25°C (77°F) | 2.51 J/g°K |
| Surface Tension, 25°C (77°F) | 36 mN/m |
| Flash Point, Pensky-Martens Closed Cup | 104°C (220°F) |
| Autoignition Temperature | 371°C (700°F) |
| Thermal Conductivity, 25°C (77°F) | 0.2061 W/m°K |
| Electrical Conductivity, 25°C (77°F) | 10 micro S/m |
| Heat of Formation | -422 kJ/mol (-101 Kcal/g-mol) |
| Heat of Vaporization, 25°C (77°F) | 67.0 kJ/mol |

These are typical values and should not be construed as specifications.

* PG AF is based on the production of propylene glycol in USP quality.

Applications

Dow's Propylene Glycol Animal Feed is used in pet food and animal feed as humectant, emulsifier, preservative, solvent for additives, energy source and aid for prevention of ketosis (acetonemia) in dairy cattle. It is classified as animal feed material in countries of the European Union.

It must be emphasized that it is the user's responsibility to consult area and country-specific regulations for details of use of Propylene Glycol in animal feed. Propylene Glycol may not be used in cat food.

Storage and Handling

Propylene Glycol Animal Feed is stable for at least two years when stored at ambient temperature in closed containers and away from sunlight and other sources of UV light.

Where product heating is utilized (i.e. for bulk storage and/or transport containers) the product temperature should be controlled to prevent unintentional overheating over extended periods as this may potentially lead to accelerated oxidative degradation of the product. As a general guide Dow recommends heating up to not more than 40° C.

For more details about product handling and safety information, please refer to the Dow Material Safety Data Sheet (MSDS).

Product Stewardship

The Dow Chemical Company and its subsidiaries ("Dow") has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our Product Stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our Product Stewardship program rests with each and every individual involved with Dow products — from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

Safety Considerations

Material Safety Data (MSD) sheets are available from The Dow Chemical Company. MSD sheets are provided to help customers satisfy their own handling, safety and disposal needs and those that may be required by locally applicable health and safety regulations. MSD sheets are updated regularly, therefore, please request and review the most current MSD sheet before handling or using any product. These are available from the nearest Dow sales office.

Customer Notice

Dow encourages its customers to review their application of Dow products from the standpoint of human health and environmental quality. To help ensure that Dow products are not used in ways for which they were not intended or tested, Dow personnel will assist customers in dealing with ecological and products safety. Your Dow sales representative can arrange the proper contacts.

Contact information:

For more information about this product please call The Dow Chemical Company.

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