



AMINE TREATING INFORMATION & SUPPORT SERVICES

GAS/SPEC SS Specialty Amines*

Better People. Better Service.





CFR
chemicals

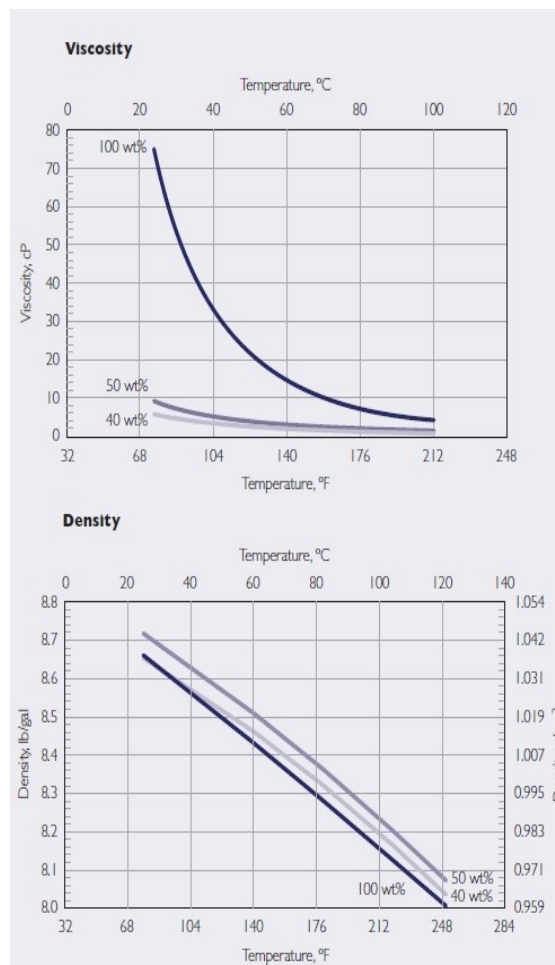
GAS/SPEC *SS* *Specialty Amine*

GAS/SPEC* SS specialty amine is an INEOS formulated MDEA (methyldiethanolamine) specifically designed for the gas treating industry. It selectively removes H₂S over CO₂ from a gas or liquid stream, which results in greater acid gas removal capacity per volume of circulating solution than amines such as monoethanolamine (MEA), diethanolamine (DEA), and diisopropanolamine (DIPA).

GAS/SPEC SS is less corrosive and less prone to degradation than MEA, DEA or DIPA, and it can be used at up to 50 weight % amine strength, which reduces amine circulation rate and energy usage. This translates into lower operating costs and increased capacity for existing equipment and reduced capital for new equipment.

GAS/SPEC SS has tighter sales specifications than generic MDEA and comes with the full range of GAS/SPEC services.

* Trademark and service mark of INEOS Americas LLC.



APPLICATIONS

- Natural Gas Treating • Enhanced Oil Recovery
- Coal Gasification • Tail Gas Treating
- Refinery Systems • LPG & NGL Treating

PHYSICAL PROPERTIES¹

Specific Gravity @ 25/25° C _____ 1.04
 Boiling Point @ 760 mmHg _____ 247.0 °C
 Freezing Point (100 Wt%) _____ -22.5 °C
 Latent Heat of Vaporization @ normal boiling point _____ 111.0 Cal/g
 Flash Point (PMCC) _____ 127.0 °C

¹GAS/SPEC SS concentrate. Typical properties, not to be construed as specifications

INEOS

GAS/SPEC
INEOS PRODUCTS, SERVICES AND TECHNOLOGY



GAS/SPEC ENGINEERING TECHNICAL SERVICES

As a global leader in Amines technology INEOS brings an unmatched combination of knowledge, skill, experience, and customer commitment to every job. Whether it's a new gas treating system, a licensed amine technology package, Engineering Design Study, or a conversion installing a specialty amine system becomes a lot easier when experienced professionals help at each step.

By Choosing GAS/SPEC specialty amines, you qualify for comprehensive technical support from the largest and most experienced team of gas conditioning specialists. GAS/SPEC experience goes back more than 50 years. We developed the state-of-the-art simulation model for predicting MDEA solvent performance. We perform more MDEA analysis, provide faster reporting for customers and we have been developing specialty amines based on MDEA since 1982.



Simulation & Design Services

Kinetic mass transfer based models are utilized to design, predict and guarantee GAS/SPEC product performance. INEOS products are available in the commercial ProTreat simulator by Optimized Gas Treating empowering customers and engineering companies for design and complete studies for GAS/SPEC specialty amines.

INEOS GAS/SPEC engineers can determine which amine or technology would work best for your system, based on operating parameters.

INEOS GAS/SPEC engineers can check a new design or diagnosis for existing problems and predict effects after conversion. If you are designing a new plant, computer simulation work can minimize the amount of capital that must be invested. For existing systems, our simulation programs can suggest ways to optimize throughput, reliability and operating costs.



TECHNICAL SUPPORT SERVICES

Quarterly analytical testing provided with results on lean amine.

Recommendations for continued optimum performance included.

- ◆ Tech support via phone/email/fax for trouble shooting issues, optimization, and analytical interpretation.
- ◆ 24-hour internet access to analytical results database.
- ◆ On site plant visit(s) including:
 - a) **System and Solution Preparation**
 - b) **Plant Operation Guides**
 - c) **Plant Troubleshooting**
 - d) **Analytical Procedures**
 - e) **Product Safety & Handling (SDS)**
 - f) **Plant Op Training**
 - g) **Plant Start-up Assistance**

CFR can provide onsite assistance within 24hrs notice of plant issues
Includes:

- ◆ Sampling of lean amine for amine strength, loading, foaming tendencies, total suspended solids, color comparison. Analysis provided off-site to include: loading, impurities, heat stable salts, metals, etc.
- ◆ Rich amine sampling for acid gas loading.
- ◆ Refractometer testing of amine strength.
- ◆ Sample testing of treated gas to confirm CO₂ and H₂S levels are within spec.

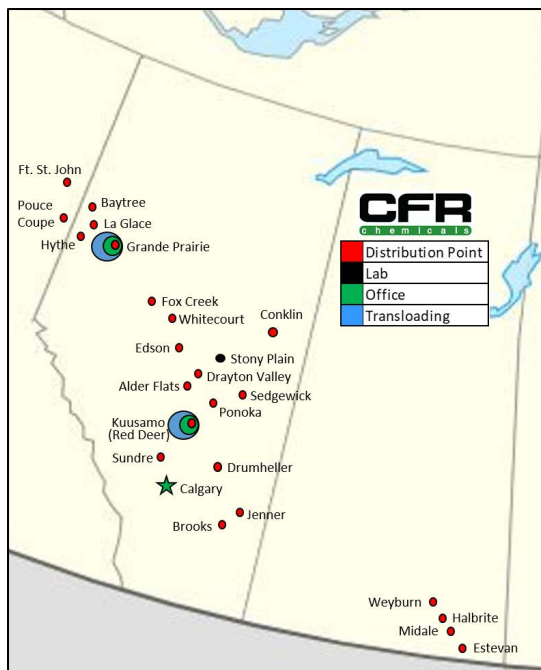
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Ph: 1 (877) 269-3419

Laboratory

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Stony Plain, AB T7Z 1V7
Ph: (780) 975-3240

Grande Prairie

9801-B 148th Avenue
Grande Prairie, AB T8V 6S8
Ph: (780) 567-2664



ENFORM



Health & Safety

CFR is proud to have obtained an Alberta Certificate of Recognition (COR). This represents a significant achievement in our health and safety practices. We strive for continuous improvement, and to be a valued resource on best-practices within our industry. We welcome comments and suggestions from our customers – chat with us today.

We are also proud members of both ISNetwork, and Complyworks. Contact our Health and Safety manager for additional safety information, or our Corporate Development Manager for more information on our involvement with vendor management systems.