

GAS/SPEC

SS-3

Specialty Amine

GAS/SPEC* SS-3 specialty amine is formulated for use in applications where selective removal of H_2S from gas streams is required. GAS/SPEC SS-3 not only removes H_2S to lower levels than MDEA (methyldiethanolamine) alone, but also improves CO_2 slip. Increased selectivity for H_2S over CO_2 allows the plant to increase treating capacity, lower energy usage, and improve the quality of acid gas going to the sulfur plant.

The net results are lower costs and improved plant operations. The unique property of GAS/SPEC SS-3 allows this solvent to be used in applications where MDEA cannot achieve the required H_2S specification.

* GAS/SPEC is a trademark and service mark of INEOS LLC.

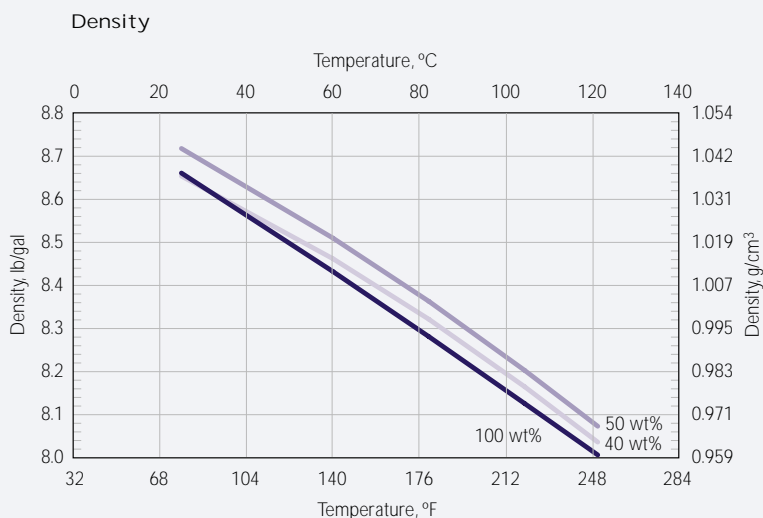
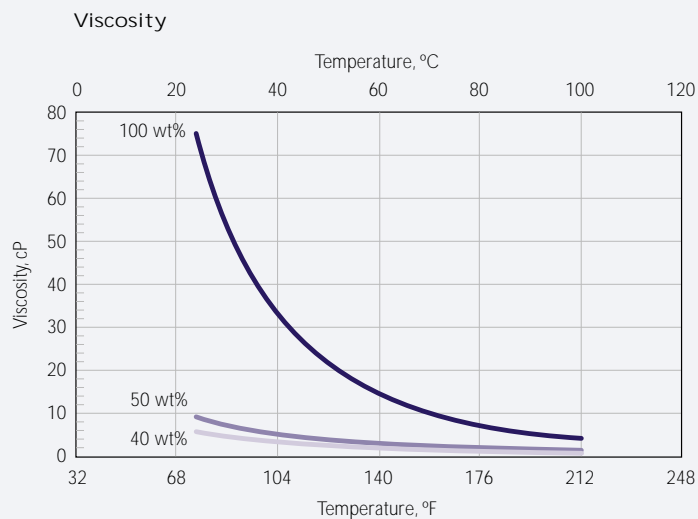
APPLICATIONS

- Natural Gas Treating
- Refinery Systems
- Acid Gas Enrichment (AGE)

PHYSICAL PROPERTIES ¹

Specific Gravity @ 25/25° C	1.05
Boiling Point @ 760 mmHg	182 °C
	360 °F
Freezing Point (50 Wt%)	-22.5 °C
	-8.5 °F
Freezing Point (100 Wt%)	-22.5 °C
	-8.5 °F
Latent Heat of Vaporization @ normal boiling point	200.2 Btu/lb _m
	111.0 Cal/g
Flash Point (COC)	146 °C
	295 °F

¹GAS/SPEC SS-3 concentrate. Typical properties, not to be construed as specifications



PRODUCT SERVICES

INEOS offers a broad line of services to our specialty amine customers, including:

- superior simulation capabilities
- troubleshooting consultations
- on-site start-up and optimization
- solvent analysis and interpretation
- local stocking & supply

MATERIALS OF CONSTRUCTION

The preferred material for storage of GAS/SPEC SS-3 is 304L or 316L stainless steel. Carbon steel tanks are also satisfactory, although discoloration and iron in the amine may occur. Nitrogen padding of the tanks is recommended to prevent oxidation and discoloration of the amine during extended storage. The amine can also be stored in high-density polyethylene (HDPE) or polypropylene (HDPP).

Materials to avoid include:

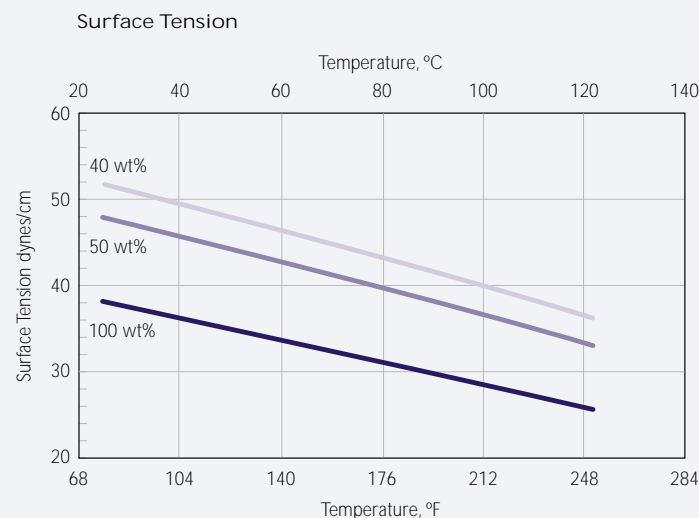
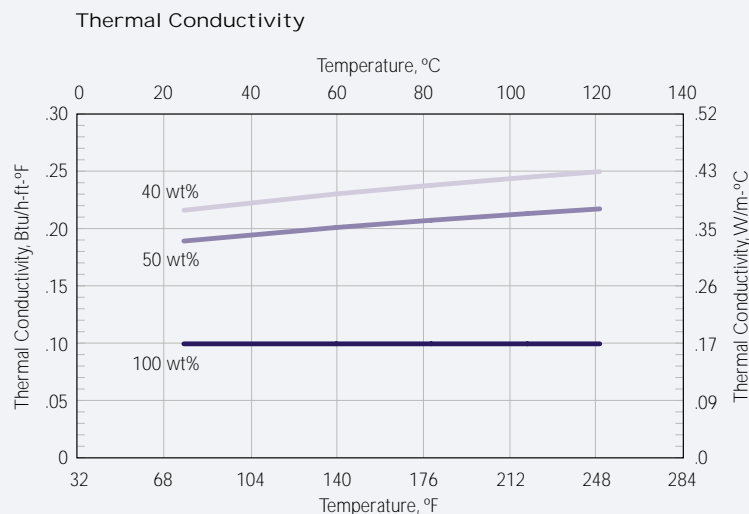
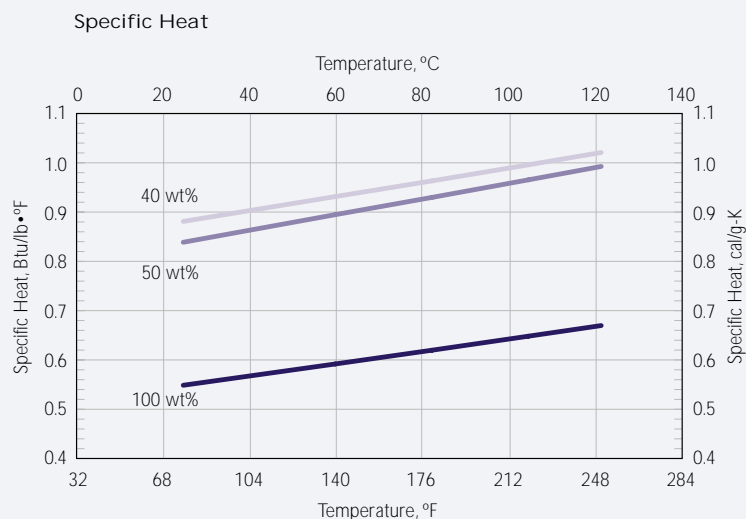
- Aluminum
- Copper
- Brass
- Copper alloy

STORAGE TEMPERATURE

- The recommended minimum temperature for storing and pumping 100% GAS/SPEC SS-3 is 20 °F (-7 °C).
- Dilution of GAS/SPEC SS-3 with a small amount of water will depress the freezing point and lower the viscosity for pumping
- Steam tracing and insulation may be required in cold weather.

HANDLING AND SAFETY

- GAS/SPEC SS-3 can cause serious injury to the eyes and may result in permanent eye injury. If accidental contact with the eyes occurs, flush them thoroughly with water and seek medical attention.
- Single-dose oral toxicity of GAS/SPEC SS-3 is low.
- Swallowing large amounts of GAS/SPEC SS-3 may cause severe burns to the mouth, throat, and digestive tract. Accidental ingestion of small amounts of GAS/SPEC SS-3 is not expected to cause injury.
- May cause irritation to the skin. Occasional brief contact with the skin should be washed off immediately and should have few adverse effects. If GAS/SPEC SS-3 is heated or a mist produced, concentrations may be sufficient to cause irritation to the upper respiratory tract.
- Consult product Material Safety Data Sheet for more details.



The following precautions should be observed when the possibility of exposure exists:

- A safety shower and eyewash facility located nearby
- Chemical goggles
- Protective clothing, including chemically resistant gloves
- A well-ventilated work area

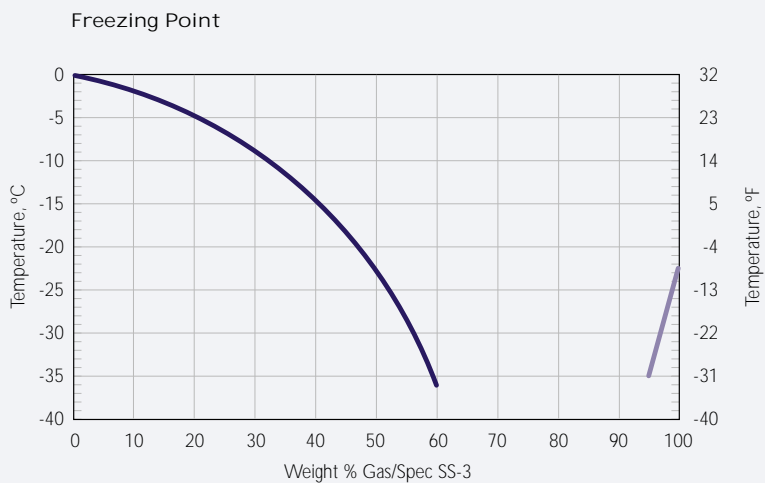
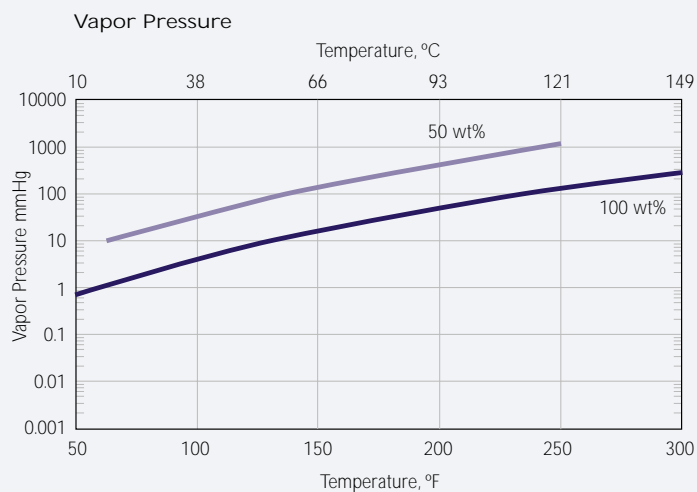
Accidental Release

- Clear non emergency personnel from area.
- PROTECT THE ENVIRONMENT: Keep out of sewers, storm drains, surface waters and soil.
- Contain spill if possible. Clean up with a non-combustible absorbent. Do not use sawdust.

REGULATORY

Regulatory requirements may vary for different locations. Contact your INEOS representative for more information.

- GAS/SPEC SS-3 is not considered hazardous according to the guidelines of the U.S. Department of Transportation (DOT).
- GAS/SPEC SS-3, as sold, contains no chemical subject to SARA Title III Section 313 supplier notification requirements.
- The export of this product is regulated under the provisions of the Chemical Weapons Convention.



GAS/SPEC

Since 1982, the GAS/SPEC name has represented a special focus on the products, technology and service to chemically remove acid gases from process streams. The GAS/SPEC business unit has been continuously headquartered in Houston, Texas, with its major technical facility in Freeport, Texas.

The family of specialty amines offered by the GAS/SPEC Technology Group, all based on MDEA technology, provides custom H₂S and CO₂ removal in amine treating operations. The GAS/SPEC products and technology are exclusively offered by INEOS LLC and its specialized distributors.

The GAS/SPEC Technology Group is dedicated to achieving the highest degree of customer satisfaction globally through the application of the best available technology through the supply of cost-effective products and services. Other companies offer MDEA based products, some even attempting to emulate GAS/SPEC with similar sounding names... But only products with the GAS/SPEC name bring you the formulations, technology and service you are used to.

INEOS

INEOS LLC
Head Office

2925 Briarpark Drive, Suite 870 • Houston, TX 77042
713-243-6200

www.ineosllc.com



NOTICE: No freedom from any patent owned by Seller or others is to be inferred. Because use conditions and applicable laws may differ from one location to another and may change with time, Customer is responsible for determining whether products and the information in this document are appropriate for Customer's use and for ensuring that Customer's workplace and disposal practices are in compliance with applicable laws and other governmental enactments. Seller assumes no obligation or liability for the information in this document. NO WARRANTIES ARE GIVEN: ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED.

GS55002-8/01