

DCG PARTNERSHIP I, LTD.

The Premier Manufacturer of Calibration Standards for the Hydrocarbon and Biofuels Industries

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STANDARD ISSUE



HOLIDAY SPECIAL

10% OFF

ANY CALIBRATION STANDARD
OF \$1500.00 OR MORE

Expires 12-31-08



DCG's New Speciated Sulfur Standards for ASTM D5504 and ASTM D5623

DCG has long been known for the excellent quality and stability of their sulfur standard products. We are proud to add speciated sulfur standards for ASTM methods D 5504 – Determining Speciated Sulfurs in Natural Gas and ASTM D 5623 – Determining Speciated Sulfurs in Liquefied Petroleum Gas to our standard product line. It is important for refiners to be able to identify and quantify the different sulfur species in their process feed stocks. Many of the sulfur compounds found in these feeds are corrosive, odorous or poisonous to the catalysts used in the refining process. Knowing the types of sulfur species in the feed helps refiners to better control the amount of sulfur in the end product. DCG's speciated sulfur standards will help you in identifying the types of sulfur compounds in your feed stocks and products. This valuable information can help you improve your process and also help you meet your EPA requirements for sulfur in your final products. As with all DCG products, we will provide outstanding technical support and customer service before, during and after your standard purchase.

**HO, HO, HO,
SANTA'S ON THE WAY TO OFFER
METHOD DEVELOPMENT CLASSES AT
DCG!**

**CALL CUSTOMER SERVICE FOR MORE
DETAILED INFORMATION.**

Employee Spotlight: Sue Black

For those of you that have spoken to Sue Black, Customer Service Representative, know that she will manage your order from start to finish with exceptional professionalism. Her goal is to ensure that your order will be handled in a timely manner and all your questions or technical inquiries will be addressed. Once you've received your order Sue will call and answer any question that might have arisen once the product is in your hands.

Sue has been with DCG since February 2006. She brings many years of customer service experience to her current position which she began in 1989 in North Carolina as an Account Manager for a large commercial insurance company. The insurance industry is very detail oriented and complex and the skills she developed were a perfect fit for DCG considering our product-line is just as complex and detail oriented. When asked about her favorite part of her job at DCG, she responded, it is the satisfaction she gets from providing her customers with a positive, helpful experience in purchasing their custom quality standard and other products.

Sue takes pride in her position and her role is more personalized than many customers might know. Because DCG encourages continuous training and opportunities for Customer Service personnel, Sue attends conferences, seminars and meetings at various locations to enhance her skills. In fact, don't forget to stop and meet her at the Biodiesel Booth in San Francisco in February 2009. It is important to Sue that customer service goes above and beyond the usual, so as to compliment DCG's quality products and excellent customer service.



CHEMIST'S CORNER

How to convert from PPM mol of Sulfur Compound to mg Sulfur/m³ gas

We will use the example of the 15.9 PPM mol DMS in Methane standard to show the work for this conversion

- The first thing to do is to convert to PPM wt. We do this by multiplying by the molecular weight of the component and then dividing by the molecular weight of the matrix. In the case of our example we use 62.13 g/mol as the molecular weight of DMS and 16.042 as the molecular weight of Methane

$$\text{(PPM mmol sulfur compound / Kmol Matrix)} \times \text{(molecular weight sulfur compound in mg/ mmol} = \text{mg sulfur compound/ Kmol Matrix}$$

$$\text{Ex - (15.9 PPM mmol DMS/ Kmol Methane)} \times \text{(62.13 mg DMS/ mmol DMS)} = \text{987.9 mg DMS/ Kmol Methane}$$

$$\text{(mg sulfur compound/ Kmol Matrix)} / \text{(molecular weight of Matrix in Kg/ Kmol)} = \text{mg of sulfur compound / Kg of Matrix (mg/Kg =PPM weight)}$$

$$\text{Ex - (987.9 mg DMS/ Kmol Methane)} / \text{(16.047 Kg Methane/ Kmol Methane)} = \text{61.56 mg DMS/ Kg Methane}$$

(This is PPM wt)

- Next we convert to Sulfur from DMS (S). To do this we multiply by the molecular weight of Sulfur, 32.06 and divide by the molecular weight of DMS, 62.13.

$$\text{((mg sulfur compound/Kg Matrix)} \times \text{molecular weight of sulfur)} / \text{molecular weight of sulfur compound} = \text{mg S / Kg Matrix}$$

$$\text{Ex - ((61.56 mg DMS/ Kg Methane)} \times \text{32.06)} / \text{62.13} = \text{31.77 mg S / Kg Methane}$$

- The last step is to change from the base of Kg to m³. To accomplish this we multiply the result from above by the Ideal Gas Density for Methane, 0.67848 Kg Methane/ m³. This value is from the SI version of the GPA 2145-03 method.

$$\text{(mg S / Kg Matrix)} \times \text{(Ideal gas density for Matrix Kg/ m}^3\text{)} = \text{mg S / m}^3$$

$$\text{Ex - (31.77 mg S / Kg Methane)} \times \text{(0.67848 Kg Methane/ m}^3\text{ Methane)} = \text{21.56 mg S / m}^3\text{ Methane}$$



Please join us for a Holiday Luncheon with all the trimmings

On Thursday, December 18, 2008 from 12:00 to 2:00 pm at DCG in Pearland, Texas

We would love to see you, provide you a tour of our facilities and have you spend some time with our Chemist Consultants.

We value working with you, and look forward to hearing from you!

Please R.S.V.P. attendance for luncheon by December 15, 2008 to Lori @ 281-648-1894 x 206 or email: lori@dcgpartnership.com



Meet and Greet

December: ISO TC193, Belgium

ASTM, Tampa, Florida

January 2009: ASTM D16, Atlanta

February 2009: National Biodiesel Conference, San Francisco



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