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**UV ABSORBANCE OF DMSO**

1.0 Purpose

To measure the UV absorbance of DMSO.

2.0 Safety/Health

2.1 PPE

Wear standard safety equipment consisting of safety glasses or goggles, flame retardant clothing and laboratory nitrile gloves when using these materials.

2.2 Safety Systems

N/A

2.3 Health Hazards

Refer to the Material Safety Data Sheets located in the Catalog of Chemicals.

3.0 Process Description

3.1 Process Overview

N/A

3.2 Scope/Boundaries

N/A

3.3 Equipment Involved

Hewlett Packard 8453 Diode Array UV/VIS  
W/HP Chemstation Software  
Quartz Cell  
40 mL I-Chem vial  
Pasteur Pipet  
Dry Nitrogen  
Fritted Glass Gas Dispersion Tubes  
Kimwipes tissues

4.0 Procedure

4.1 Pour approximately 20 mL DMSO into I-Chem vial. Immerse gas dispersion tube into DMSO and attach to dry nitrogen line. Slowly turn on gas flow and increase until bubbles reach the neck of the vial. Purge for thirty (30) minutes.

4.2 Turn on Hewlett Packard computer, monitor, printer, and HP 8453. Windows 95 will automatically boot up.

- 4.3 Select **CANCEL** at networking password screen. The Windows 95 program files screen will appear on the monitor.
- 4.4 Click on **HP8453 UV/VIS** icon. At the Chemstation password screen type your name and click on **OK**. The HP Chemstation UV/VIS program will automatically boot up.
- 4.5 Open **FILES** listing and select **LOAD METHOD** command. Then click on **DMSO-UV** method. Instrument is now configured for UV analysis.

NOTE: Allow fifteen (15) minutes for instrument warm-up before analyzing samples.

- 4.6 Fill the 1 cm quartz cell with Type I water and cap. Clean outside with Kimwipes and place in sample holder. Click on **BLANK**. Instrument will automatically display blank spectra and absorbance values. Remove water blank cell.
- 4.7 Very carefully fill other 1 cm quartz cell with purged sample using clean Pasteur pipet. Clean outside with Kimwipes and place in sample holder. Click on **SAMPLE**. Instrument will automatically display sample spectra and absorbance values.
- 4.8 Analyze all samples in this manner rinsing cell twice with new sample before analysis.
- 4.9 After all samples have been analyzed use mouse to point to sample name column and keyboard to type in date and sample name for each sample (example: 3-18 DMSO STG). When finished naming samples click on **SAVE DATA TO FILE** icon. Type in the file name for the samples. For daily samples use that day's date as the file name (example: 0103019 for 3-19-01 samples). After typing the file name click on **OK**. Analysis and data storage to computer file are complete.
- 4.10 To shutdown instrument, point mouse to **FILE** listing and select **EXIT**. Instrument will exit the HP Chemstation software and will return to Windows 95. Turn off power to UV/VIS. Computer can now be shut down if not required for other analytical work.

#### 5.0 Documentation

Transcribe UV data for each sample into Operator's lab notebook and also into Laboratory logbook. Then transcribe into Daily Report on Lab computer if applicable.

#### 6.0 Glossary

None associated with this procedure.

#### 7.0 Reference

None associated with this procedure.

GAYLORD CHEMICAL CORPORATION  
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## 8.0 Test Specification

Manufacturing Spec = 0.50 max

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