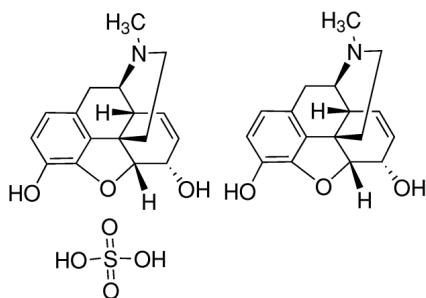


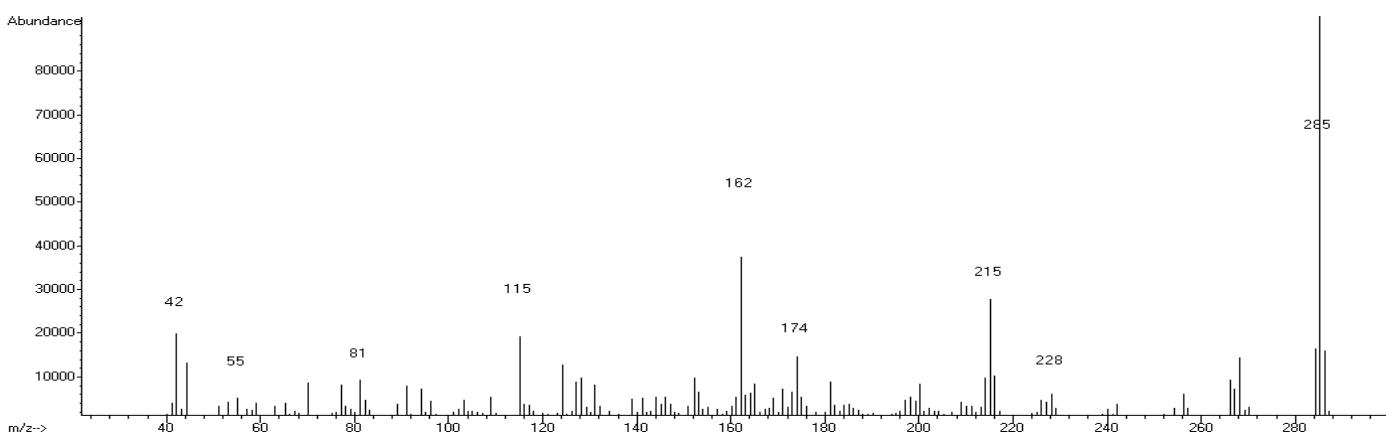
## Product Information

**Morphine sulfate salt solution****1.0 mg/mL $\pm$ 5% in methanol  
drug standard****Catalog Number M9524****Lot Number SLBK9386V****Storage Temperature –20 °C****CAS RN 64-31-3****Synonym: (5 $\alpha$ , 6 $\alpha$ )-7,8-Didehydro-4,5-epoxy-17-methylmorphinan-3,6-diol sulfate****Product Description****Molecular Formula: C<sub>34</sub>H<sub>38</sub>N<sub>2</sub>O<sub>6</sub> · H<sub>2</sub>SO<sub>4</sub>**  
**Molecular Weight: 668.75****DEA Class: Exempt preparation of Class II****Concentration: 1.17 mg morphine sulfate (equivalent to 1.00 mg of free base)/mL of GC grade methanol (concentration verified by UV)****Expiration Date: March 2018****Precautions and Disclaimer**

This product is for R&D use only, not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

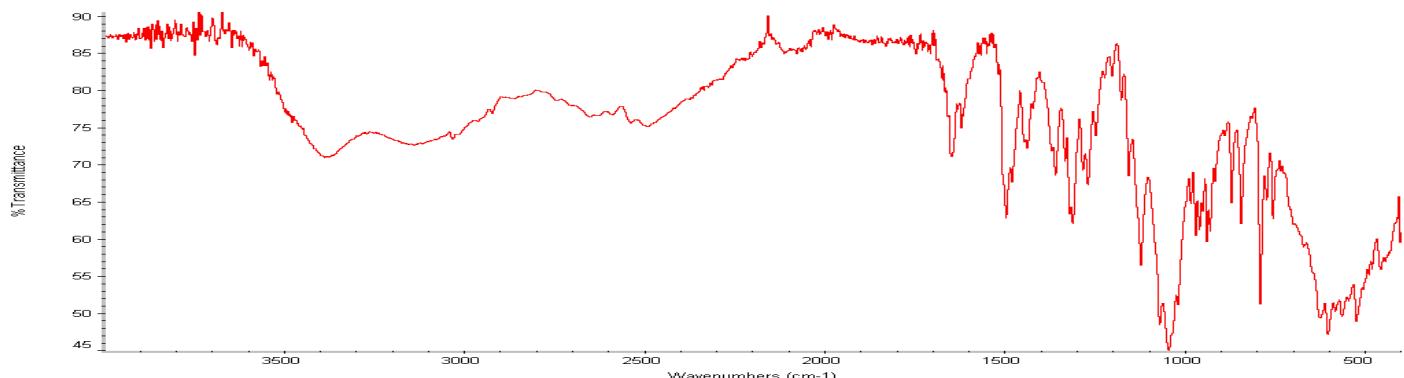
**Storage/Stability**

Store the product at -20 °C. If stored at -20 °C in an airtight container, protected from light, decomposition of the product is less than 1% in 24 months. After opening, concentration may change due to loss of solvent.

**CMW,MAM 03/15-1****70 eV Electron Ionization Mass Spectrum**

Hewlett-Packard 6890 Series II Gas Chromatograph  
Hewlett-Packard 5973 Mass Selective Detector  
Hewlett-Packard G1701DA MS ChemStation (HP-DOS series)

### FT-IR



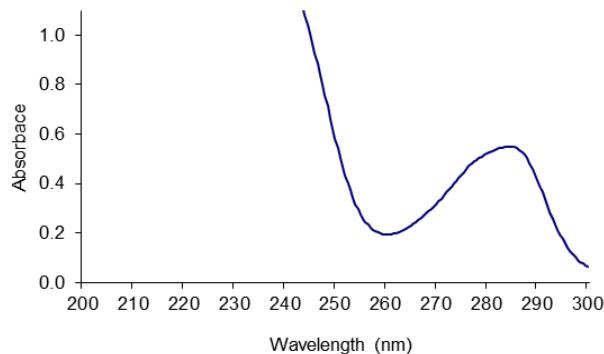
Nicolet 380 FT-IR with Thermo Smart Orbit attachment

### Ultraviolet Spectrum

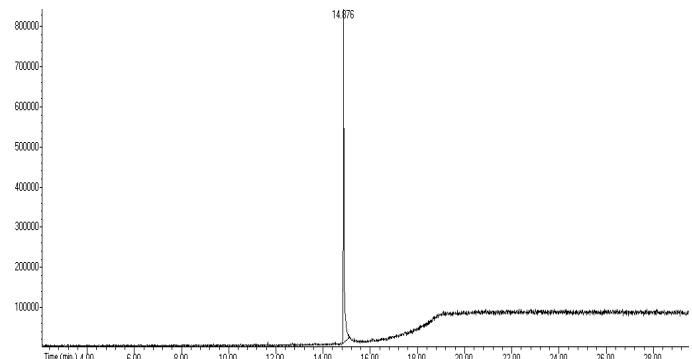
Peak	284.5 nm
Absorbance	0.5504
Solvent	0.2 N H <sub>2</sub> SO <sub>4</sub>
Dilution	1:9 (v/v)

### Capillary Gas Chromatography

**Column** Supelco SPB-1 (Catalog Number 24162)  
**I.D.** 0.20 mm **Length** 15 m **Film Thickness** 0.20  $\mu$ m  
**Oven Temperature** 50 °C (2 minutes), then  
15 °C/minute to 300 °C, hold 11 minutes  
**Injector Temperature** 250 °C, Splitless  
**Detector** Hewlett-Packard 5973  
Mass Selective Detector (70 eV, 40-500 m/z)



Beckman-Coulter DU 800



Hewlett-Packard 6890