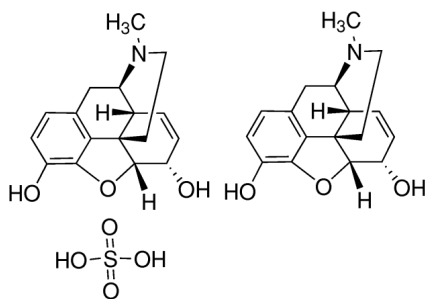


## Product Information

**Morphine sulfate salt solution**  
**1.0 mg/mL $\pm$ 5% in methanol**  
**drug standard**

Catalog Number **M9524**  
Lot Number 071M8723  
Storage Temperature  $-20^{\circ}\text{C}$

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:  $\text{C}_{34}\text{H}_{38}\text{N}_2\text{O}_6 \cdot \text{H}_2\text{SO}_4$   
Molecular Weight: 668.75

DEA Class: Exempt preparation of Class II

Concentration: 1.14 mg morphine sulfate (equivalent to 0.97 mg of free base)/mL of GC grade methanol (concentration verified by UV)

Expiration Date: August 2014

### Precautions and Disclaimer

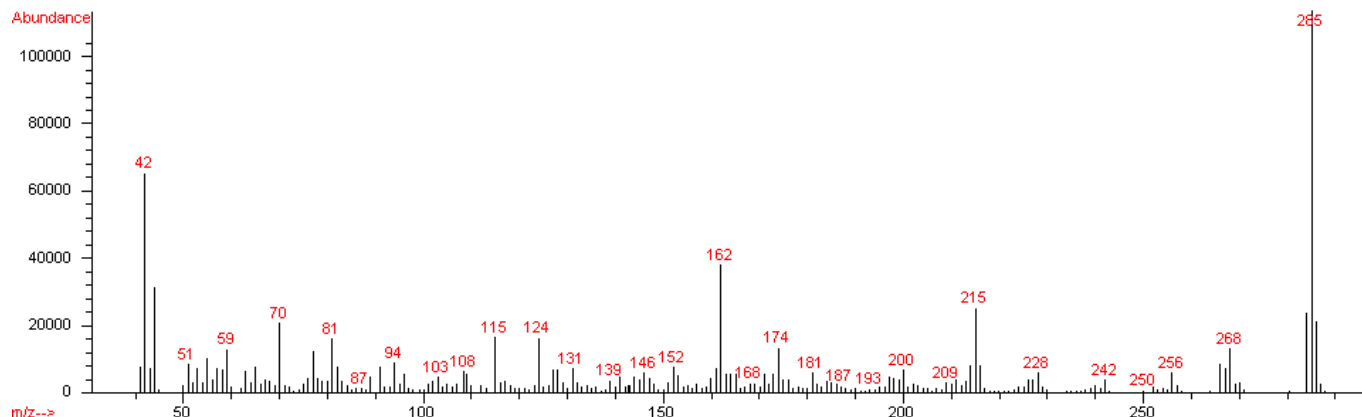
This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

### Storage/Stability

Store the product at  $-20^{\circ}\text{C}$ . If stored at  $-20^{\circ}\text{C}$  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 09/11-1

### 70 eV Electron Ionization Mass Spectrum



Hewlett-Packard 5890 Series II Gas Chromatograph  
Hewlett-Packard 5971 Mass Selective Detector  
Hewlett-Packard G1034C MS ChemStation (HP-DOS series)

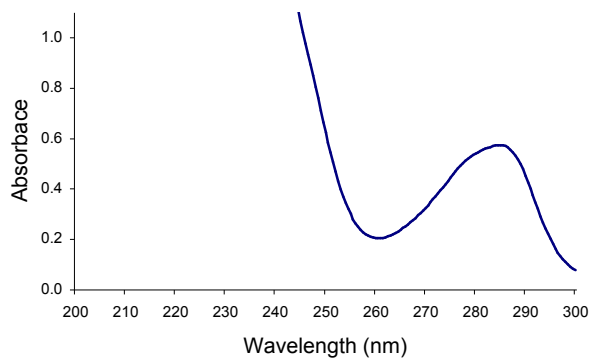
### FT-IR



Nicolet 380 FT-IR Smart Orbit(ATR)

### Ultraviolet Spectrum

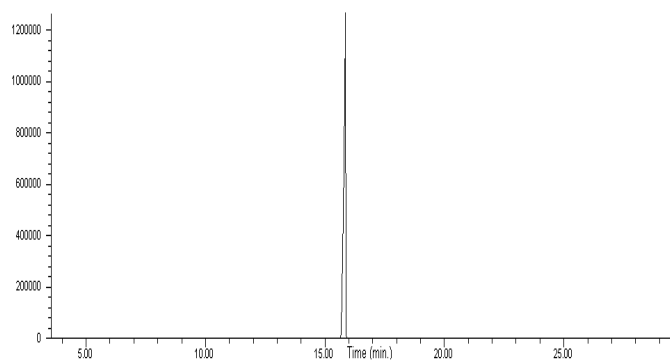
<b>Peak</b>	285.0 nm
<b>Absorbance</b>	0.5739
<b>Solvent</b>	0.2 N H <sub>2</sub> SO <sub>4</sub>
<b>Dilution</b>	1:9 (v/v)



Beckman-Coulter DU 800

### Capillary Gas Chromatography

**Column** Supelco SPB-1 (Catalog Number 24162)  
**I.D.** 0.20 mm **Length** 15 m **Film Thickness** 0.20 µm  
**Oven Temperature** 50 °C (2 minutes), then  
15 °C/minute to 300 °C, hold 11 minutes  
**Injector Temperature** 250 °C, Splitless  
**Detector** Hewlett-Packard 5971  
Mass Selective Detector (70 eV, 40-500 m/z)



Hewlett-Packard 5890