



AN 376

## Identifying Contaminants Using Raman: Organic Particles

May 7, 2007 (Version 3.0)

### Discussion

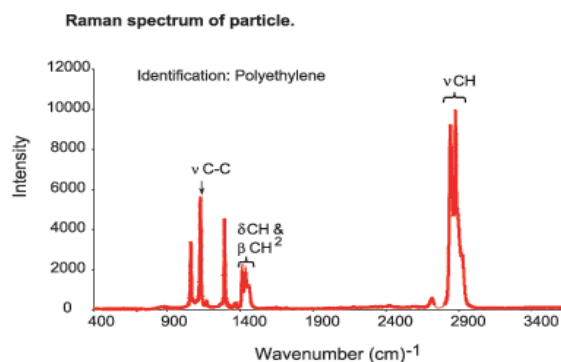
Learning the chemical composition of contaminants is important in order to determine the source of contamination. For organic particles, specific identification of the type of material is essential because there are often many possible sources present in the system.

Small organic particles (i.e., those less than 5 $\mu\text{m}$ ) pose particularly difficult problems because most techniques used for organic analysis cannot effectively identify samples this small. Raman spectroscopy is often the best approach to this type of problem.

In this example, a particle that was approximately 1  $\mu\text{m}$  in diameter was found on a surface. Raman analysis of the sample indicated that it was composed of polyethylene.



SEM image of particle found on surface



Raman spectrum of particle

---

**United States Locations**

Tempe, Arizona  
+1 480 239 0602 info.az@eaglabs.com  
+1 602 470 2655 fax

Sunnyvale, California  
810 Kifer Road  
+1 408 530 3500 info.ca@eaglabs.com  
+1 408 530 3501 fax

1135 E Arques Avenue  
+1 408 738 3033  
+1 408 738 3035 fax

785 Lucerne Drive  
+1 408 737 3892  
+1 408 737 3916 fax

Peabody, Massachusetts  
+1 978 278 9500 info.ma@eaglabs.com  
+1 978 278 9501 fax

Chanhassen, Minnesota  
+1 952 828 6411 info.mn@eaglabs.com  
+1 952 828 6449 fax

East Windsor, New Jersey  
+1 609 371 4800 info.nj@eaglabs.com  
+1 609 371 5666 fax

Syracuse, New York  
+1 315 431 9900 info.ny@eaglabs.com  
+1 315 431 9800 fax

Raleigh, North Carolina  
+1 919 829 7041 info.nc@eaglabs.com  
+1 919 829 5518 fax

Round Rock, Texas  
+1 512 671 9500 info.tx@eaglabs.com  
+1 512 671 9501 fax

**International Locations**

Shanghai, China  
+ 86 21 6879 6088 info.cn@eaglabs.com  
+ 86 21 6879 9086 fax

Tournefeuille, France  
+ 33 5 61 73 15 29 info.fr@eaglabs.com  
+ 33 5 61 73 15 67 fax

Frankfurt, Germany  
+ 49 (0) 693053213 info.de@eaglabs.com  
+ 49 (0) 69307941 fax

Tokyo, Japan  
+ 81 3 5396 0531 info.jp@eaglabs.com  
+ 81 3 5396 1930 fax

HsinChu, Taiwan  
+ 886 3 5632303 info.tw@eaglabs.com  
+ 886 3 5632306 fax

Uxbridge, United Kingdom  
+ 44 (0) 1895 811194 info.uk@eaglabs.com  
+ 44 (0) 1895 810350 fax