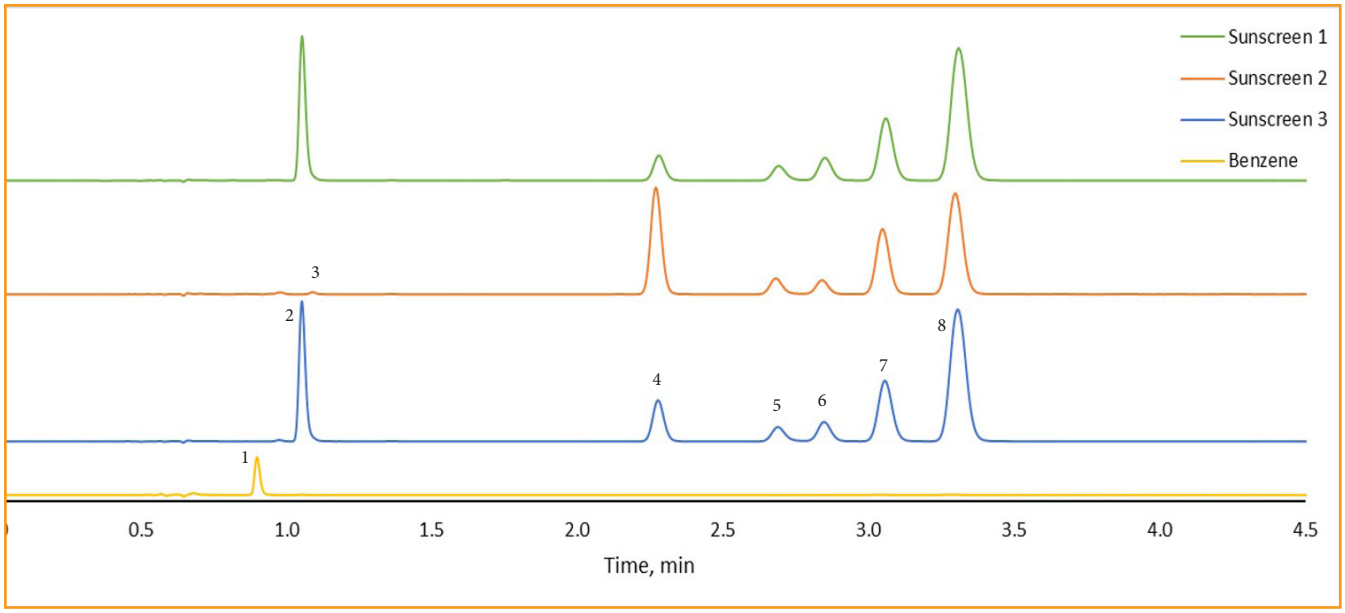
HALO®

PHARMACEUTICALS

Benzene Screening in Aerosol Sunscreens

280-SA



TEST CONDITIONS:

Column: HALO 90 Å RP-Amide, 2.7 µm, 2.1x100 mm
Part Number: 92812-607
Mobile Phase A: Water
Mobile Phase B: Acetonitrile
Isocratic: 75% B
Flow Rate: 0.3 mL/min
Back Pressure: 122 bar
Temperature: 30 °C
Detection: UV: 210 nm
Injection Volume: 0.5 µL
Sample Solvent: Ethanol
Data Rate: 100 Hz
Response Time: 0.025 sec.
Flow Cell: 1 µL
LC System: Shimadzu Nexera X2

PEAK IDENTITIES

1. Benzene
2. Oxybenzone
3. Avobenzone isomer 1
4. Octocrylene
5. Avobenzone isomer 2
6. Homosalate isomer 1
7. Octisalate
8. Homosalate isomer 2

Johnson and Johnson issued a voluntary recall for specific aerosol sunscreen products due to the presence of benzene. Sunscreens are designed to reduce the risk of burning from exposure to the sun's UV rays. Overexposure to the sun increases the chances of skin cancer so it is important to use sunscreens during outdoor activities. The active contents of sunscreens can be analyzed using HPLC as shown in this application note. Approximately 200 mg of aerosol sunscreen were treated with 10 mL ethanol to dissolve the active ingredients. Aliquots of the slurries were then filtered through a Nylon 0.45 µm porosity syringe filter prior to analysis. Benzene was screened as well due to the sunscreen recall, however, no benzene was detected.

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