

Application Report 36

TCDD Isomers on the SP-2331

Dioxins are byproducts of several different industrial processes, including incineration and paper bleaching. The toxicity of several of these compounds has made their analysis in environmental samples increasingly important. The most toxic of these compounds is 2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD). To confirm the presence of this compound in environmental samples it is often necessary to use a capillary GC column capable of separating it from other tetrachlorinated isomers. The SP-2331 is a highly polar cyanosilicone phase capillary column that offers the selectivity necessary to provide this isomer specificity. Each column is specifically tested using the mix shown in this application. In this application, 93% resolution was achieved between 2,3,7,8-TCDD and the next closest eluting isomer 1,4,7,8-TCDD.

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Raw Data File Name:

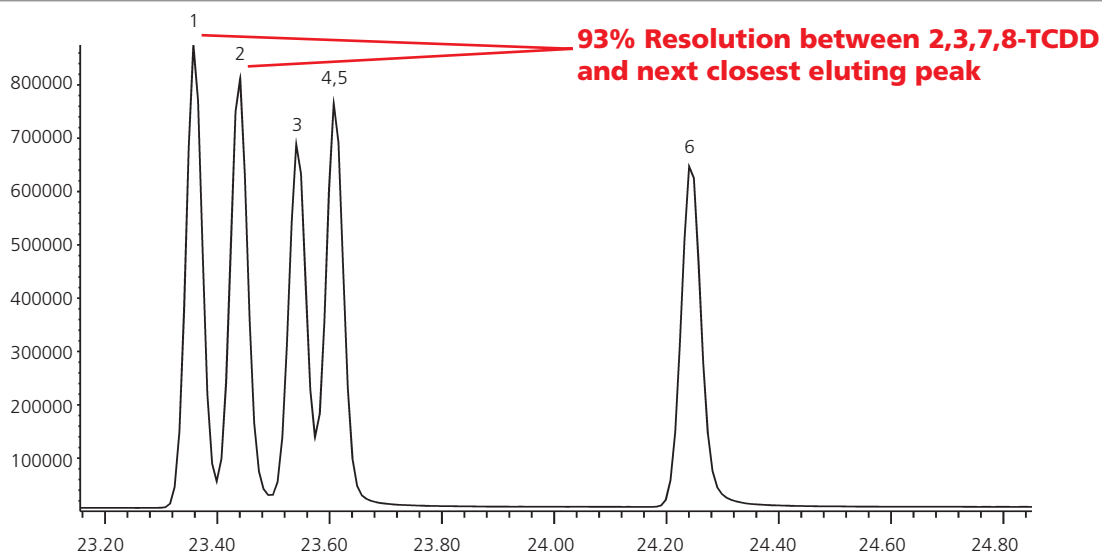
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Acquisition System: GC6249

Notebook Reference: 1435-57

Key Words

Dioxins, TCDD, SP-2331



G002102

Conditions

Column: SP-2331, 60m x 0.25mm ID, 0.20 μ m
Cat. No.: 24104-U
Oven: 170°C (1 min) to 270°C @ 8°C/min (10 min)
Inj.: 250°C
MSD Interface: 270°C
Scan Range: SIM, m/z = 320, 322, 324
Flow: Helium, 37cm/sec constant
Injection: 1 μ L, splitless (1 min)
Liner: 4mm ID, single taper
Sample: TCDD standard, 1500ppb in n-dodecane

Peak IDs

- 1,4,7,8-TCDD
- 2,3,7,8-TCDD
- 1,2,3,4-TCDD
- 1,2,3,7-TCDD
- 1,2,3,8-TCDD
- 1,2,7,8-TCDD