

free literature

A Guide to the Analysis of Chiral Compounds by GC

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lit. cat.# 59889

please note

Application-specific chiral column kits are available! See www.restek.com



Chiral selectivity improves significantly by realizing lower elution temperatures.

This can be achieved by:

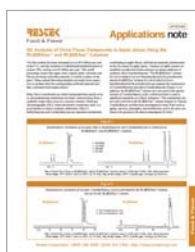
- Faster linear velocities (80 cm/sec.) with hydrogen carrier gas.
- Slower temperature ramp rates (1–2 °C/min.).
- Appropriate minimum operating temperature (40 or 60 °C).
- On-column concentrations of 50 ng or less.



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Grape Flavor Analysis, Using an Rt®-γDEXsa GC Column

lit. cat.# 59553



GC Analysis of Chiral Flavor Compounds in Apple Juices, Using Rt®-βDEXsm and Rt®-βDEXse Columns

lit. cat.# 59546

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Enantiomers Analysis

Cyclodextrin Columns for Analyzing Many Chiral Compounds

By adding β or γ cyclodextrin to our bonded Rtx®-1701 stationary phase, we greatly enhance overall utility and column lifetime for our chiral columns, compared to columns that have pure cyclodextrin stationary phases. Separations of more than one hundred chiral compounds have been achieved using our unique DEX columns, and our columns continue to demonstrate stability after hundreds of temperature program cycles.

Rt®-βDEXm Columns (fused silica)

(permethylated beta cyclodextrin doped into 14% cyanopropylphenyl/86% dimethyl polysiloxane)

Uses: General purpose chiral phase with many published applications.

ID	df	temp. limits	30-Meter
0.25mm	0.25μm	40 to 230°C	13100
0.32mm	0.25μm	40 to 230°C	13101

Rt®-βDEXsm Columns (fused silica)

(2,3-di-O-methyl-6-O-*tert*-butyl dimethylsilyl beta cyclodextrin doped into 14% cyanopropylphenyl/86% dimethyl polysiloxane)

Uses: Excellent column for most chiral compounds in essential oils.

ID	df	temp. limits	30-Meter
0.25mm	0.25μm	40 to 230°C	13105
0.32mm	0.25μm	40 to 230°C	13104

Rt®-βDEXse Columns (fused silica)

(2,3-di-O-ethyl-6-O-*tert*-butyl dimethylsilyl beta cyclodextrin doped into 14% cyanopropylphenyl/86% dimethyl polysiloxane)

Uses: Similar in performance to Rt-βDEXsm but provides better resolution for limonene, linalool, linalyl acetate, ethyl-2-methylbutyrate, 2,3-butane diol, and styrene oxides.

ID	df	temp. limits	30-Meter
0.25mm	0.25μm	40 to 230°C	13107
0.32mm	0.25μm	40 to 230°C	13106

Rt®-βDEXsp Columns (fused silica)

(2,3-di-O-propyl-6-O-*tert*-butyl dimethylsilyl beta cyclodextrin doped into 14% cyanopropylphenyl/86% dimethyl polysiloxane)

Uses: Often useful in dual-column configurations, with the Rt-βDEXsm column, for complex enantiomeric separations.

ID	df	temp. limits	30-Meter
0.25mm	0.25μm	40 to 230°C	13111
0.32mm	0.25μm	40 to 230°C	13110

Rt®-βDEXsa Columns (fused silica)

(2,3-di-acetoxy-6-O-*tert*-butyl dimethylsilyl beta cyclodextrin doped into 14% cyanopropylphenyl/86% dimethyl polysiloxane)

Uses: Unique selectivity for esters, lactones, and other fruit flavor components.

ID	df	temp. limits	30-Meter
0.25mm	0.25μm	40 to 230°C	13109
0.32mm	0.25μm	40 to 230°C	13108

Rt®-βDEXcst Columns (fused silica)

(Proprietary cyclodextrin material doped into 14% cyanopropylphenyl/86% dimethyl polysiloxane)
Uses: Proprietary stationary phase, developed specifically for the fragrance industry. Also used for pharmaceutical applications.

ID	df	temp. limits	30-Meter
0.25mm	0.25μm	40 to 230°C	13103
0.32mm	0.25μm	40 to 230°C	13102

Rt®-γDEXsa Columns (fused silica)

(2,3-di-acetoxy-6-O-*tert*-butyl dimethylsilyl gamma cyclodextrin doped into 14% cyanopropylphenyl/86% dimethyl polysiloxane)

Uses: Larger organic molecules. Also useful for flavor compounds in fruit juices.

ID	df	temp. limits	30-Meter
0.25mm	0.25μm	40 to 230°C	13113
0.32mm	0.25μm	40 to 230°C	13112