

## Enantiomers Analysis

## Cyclodextrin Columns for Analyzing Many Chiral Compounds

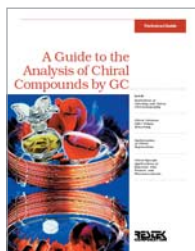
By adding  $\beta$  or  $\gamma$  cyclodextrin to our bonded Rtx®-1701 stationary phase, we greatly enhance overall utility and column lifetime for our chiral columns, compared to columns that have pure cyclodextrin stationary phases. Separations of more than one hundred chiral compounds have been achieved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

## free literature

## A Guide to the Analysis of Chiral Compounds by GC

Download your free copy from [www.restek.com](http://www.restek.com)

lit. cat.# 59889



## please note

Application-specific chiral column kits are available! See [www.restek.com](http://www.restek.com)

## i tech tip

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.

## free literature

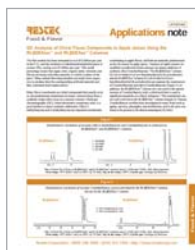
Grape Flavor Analysis, Using an Rt®- $\gamma$ DEXsa GC Column

lit. cat.# 59553

GC Analysis of Chiral Flavor Compounds in Apple Juices, Using Rt®- $\beta$ DEXsm and Rt®- $\beta$ DEXse Columns

lit. cat.# 59546

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Rt®- $\beta$ DEXm 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	0.25 $\mu$ m	40 to 230°C	13100
0.32mm	0.25 $\mu$ m	40 to 230°C	13101

Rt®- $\beta$ DEXsm 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	0.25 $\mu$ m	40 to 230°C	13105
0.32mm	0.25 $\mu$ m	40 to 230°C	13104

Rt®- $\beta$ DEXse 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- $\beta$ DEXsm 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	0.25 $\mu$ m	40 to 230°C	13107
0.32mm	0.25 $\mu$ m	40 to 230°C	13106

Rt®- $\beta$ DEXsp 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- $\beta$ DEXsm column, for complex enantiomeric separations.

ID	df	temp. limits	30-Meter
0.25mm	0.25 $\mu$ m	40 to 230°C	13111
0.32mm	0.25 $\mu$ m	40 to 230°C	13110

Rt®- $\beta$ DEXsa 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	0.25 $\mu$ m	40 to 230°C	13109
0.32mm	0.25 $\mu$ m	40 to 230°C	13108

Rt®- $\beta$ DEXcst 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	0.25 $\mu$ m	40 to 230°C	13103
0.32mm	0.25 $\mu$ m	40 to 230°C	13102

Rt®- $\gamma$ DEXsa 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	0.25 $\mu$ m	40 to 230°C	13113
0.32mm	0.25 $\mu$ m	40 to 230°C	13112