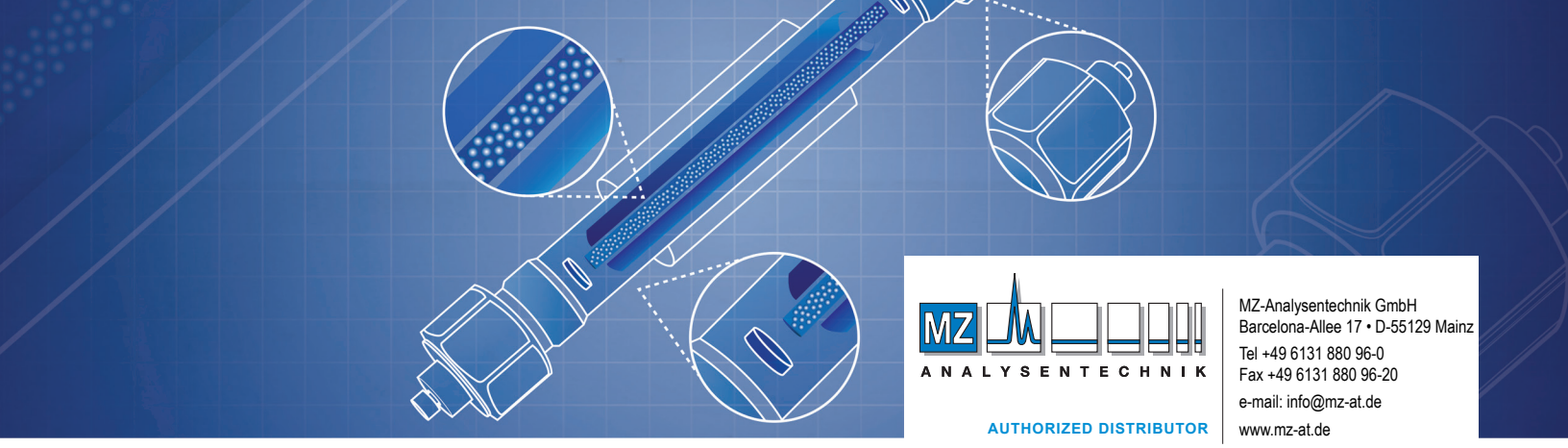

SEPARATION OF METHYCLOTHIAZIDE USING NEW IMMOBILIZED COLUMN – **CHIRALPAK IG**

APPLICATION NOTE

INTRODUCTION

Daicel Corporation has introduced a new and unique chiral selector, CHIRALPAK® IG, to its line of Daicel immobilized chiral stationary phases (CSPs). The IG phase is an amylose polymer derivatized with phenyl moieties (chloro- and methyl-groups) in meta positions. This distinctive phase was developed from our extensive library of > 150 CSPs. Moreover, our studies have shown that the IG chiral selector has the highest selectivity of any of our immobilized CSPs.

Meta-substituted immobilized chiral selectors such as CHIRALPAK IA, IB and IC have been shown to have remarkable affinity for resolution of chiral compounds from different types of molecules. Based on laboratory results, we have found that the addition of CHIRALPAK IG forms the most effective set of four chiral columns, CHIRALPAK IA, IB, IC, and IG, to be utilized for primary screening. It is noteworthy that the four best columns are all meta-substituted.

Primary Screening Columns

- CHIRALPAK IA: Amylose *tris* (3,5-dimethylphenylcarbamate)
- CHIRALPAK IB: Cellulose *tris* (3,5-dimethylphenylcarbamate)
- CHIRALPAK IC: Cellulose *tris* (3,5-dichlorophenylcarbamate)
- CHIRALPAK IG: Amylose *tris* (3-chloro-5-methylphenylcarbamate)

EXPERIMENTAL AND DISCUSSION

A CHIRALPAK IG column, packed with 5-µm particles, was used to develop the enantioselective separation of methyclothiazide. The mobile phase was a mixture of ammonium bicarbonate and acetonitrile. All chromatographic conditions are given in Figure 1.

SEPARATION EXAMPLE – REVERSED PHASE

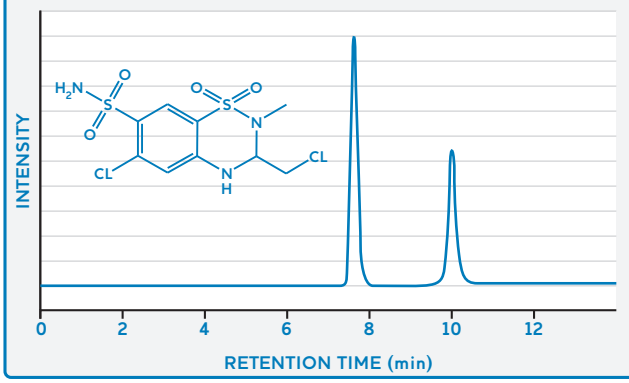

Figure 1: Separation of Methyclothiazide

CHROMATOGRAPHIC CONDITIONS

Column Size:	Daicel CHIRALPAK IG 4.6 mm i.d. x 250 mm long
Mobile Phase:	20mM NH_3HCO_3 aq/MeCN (pH 9 with DEA, 60/40)
Flow Rate:	1 ml/min
UV Detection:	254 nm
Column Temperature:	25° C

Note: *Methyclothiazide is a thiazide diuretic that is used to treat high blood pressure (hypertension). Using CHIRALPAK IG provides fast and effective separation of methyclothiazide enantiomers*

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