

GC

OPTIMA[®] WAXplus

New polar polyethylene glycol (PEG) column with innovative cross-linking and high polarity features!

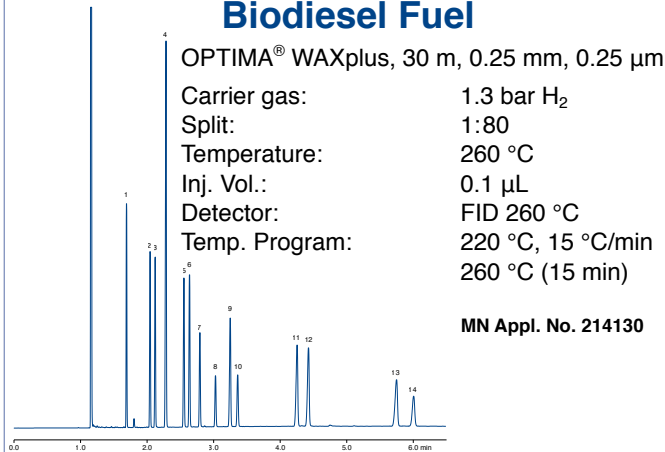
- ✓ Improved temperature stability compared to conventional PEG columns!
- ✓ Operating range 40 °C – 260 °C (isothermal), for short isotherms in a temperature program up to 270 °C!
- ✓ Chemically bonded and solvent-rinsable!
- ✓ Extended column lifetime!
- ✓ Low column bleed, suited for MSD!
- ✓ Allows for injection of aqueous samples!
- ✓ OPTIMA[®] WAXplus is equivalent to USP phase G16!

Field of application:

- Alcohols
- Solvents
- Fragrances
- FAMES
- Food analysis
- Analysis of biologically active compounds
- BTEX analysis



Fast Separation of FAMES in Biodiesel Fuel



OPTIMA® WAXplus, 30 m, 0.25 mm, 0.25 µm
 Carrier gas: 1.3 bar H₂
 Split: 1:80
 Temperature: 260 °C
 Inj. Vol.: 0.1 µL
 Detector: FID 260 °C
 Temp. Program: 220 °C, 15 °C/min
 260 °C (15 min)

MN Appl. No. 214130

Peaks:

1 Myristic acid, 2 Palmitic acid, 3 Palmitoleic acid,
 4 Methyl heptadecanoate (ISTD), 5 Stearic acid 6 Oleic acid,
 7 Linoleic acid, 8 Linolenic acid, 9 Arachic acid, 10 Gadoleic acid,
 11 Behenic acid, 12 Erucic acid, 13 Lignoceric acid, 14 Nervonic acid

Geranium Oil Ingredients

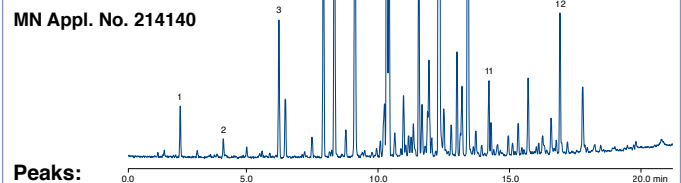
OPTIMA® WAXplus, 30 m, 0.25 mm, 0.25 µm

Split: 1:500
 for 2 min,
 then 1:25

Temp.: 260 °C
 Inj. Vol.: 0.1 µL
 Detector: MSD
 Gas: He,
 40 cm/sec

Temp. Program: 70 °C (2 min)
 8 °C/min
 220 °C (10 min)

MN Appl. No. 214140



Peaks:

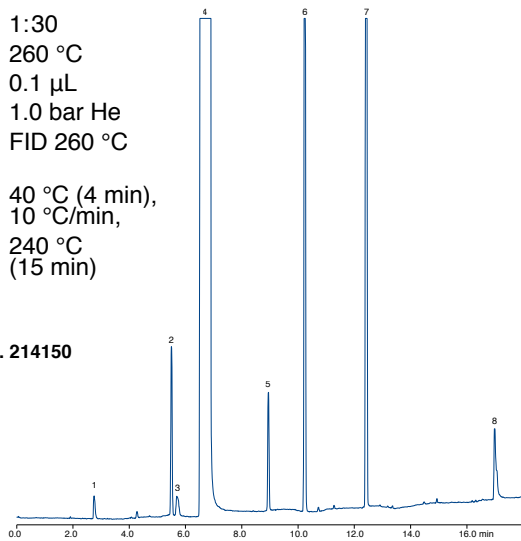
1 α-Pinene, 2 Limonene, 3 Rose oxide, 4 Menthone, 5 Isomenthone,
 6 Linalool, 7 Citronellyl formate, 8 Geranyl formate, 9 Geranyl acetate,
 citronellol, 10 Geraniol, 11 Geranyl butyrate, 12 Geranyl tiglate

Scotch Whisky

OPTIMA® WAXplus, 30 m, 0.25 mm, 0.5 µm

Split: 1:30
 Temp.: 260 °C
 Inj. Vol.: 0.1 µL
 Gas: 1.0 bar He
 Detector: FID 260 °C
 Temp. Program: 40 °C (4 min),
 10 °C/min,
 240 °C
 (15 min)

MN Appl. No. 214150



Peaks:

1 Acetaldehyde, 2 Ethyl acetate, 3 Methanol, 4 Ethanol, 5 1-Propanol,
 6 2-Methyl-1-propanol, 7 2-Methyl-1-butanol, 8 Acetic acid

Alcohols

OPTIMA® WAXplus, 30 m, 0.25 mm, 0.5 µm

Split: 1:80
 Temp.: 260 °C
 Inj. Vol.: 0.1 µL
 Detector: FID 260 °C
 Gas: 1.3 bar He

Temp. Program: 40 °C,
 12 °C/min,
 260 °C
 (15 min)

Peaks:

1 Methanol, 2 2-Propanol, 3 Ethanol, 4 1-Propanol,
 5 2-Methyl-1-propanol, 6 1-Butanol, 7 4-Methyl-2-pentanol,
 8 1-Pentanol, 9 2-Methyl-1-pentanolformiate, 10 1-Hexanol,
 11 Cyclohexanol, 12 1-Heptanol

MN Appl. No. 214160

Ordering information

REF	Phase	ID	FD	Length
726380.30	OPTIMA® WAXplus	0.25 mm	0.25 µm	30 m
726380.60	OPTIMA® WAXplus	0.25 mm	0.25 µm	60 m
726381.30	OPTIMA® WAXplus	0.25 mm	0.50 µm	30 m
726381.60	OPTIMA® WAXplus	0.25 mm	0.50 µm	60 m
726382.30	OPTIMA® WAXplus	0.32 mm	0.25 µm	30 m
726382.60	OPTIMA® WAXplus	0.32 mm	0.25 µm	60 m
726383.30	OPTIMA® WAXplus	0.32 mm	0.50 µm	30 m
726383.60	OPTIMA® WAXplus	0.32 mm	0.50 µm	60 m

www.mn-net.com

MACHEREY-NAGEL



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