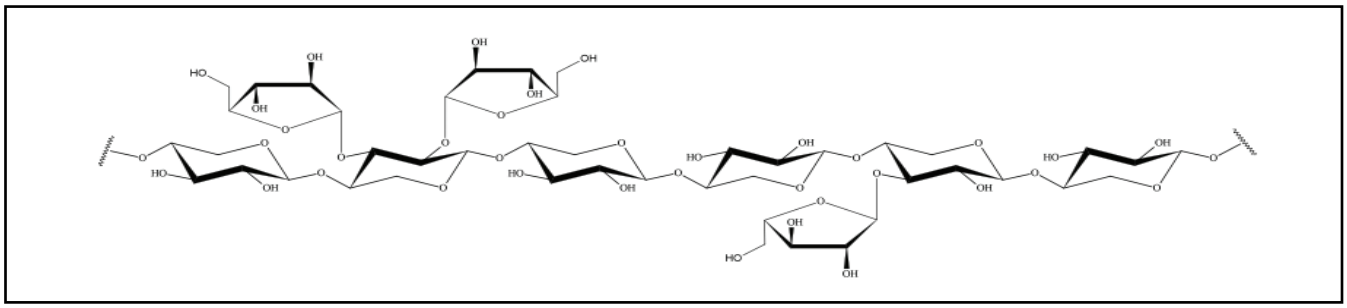
WHEAT ARABINOXYLAN (acid debranched; 22% Ara) (Lot 140501a)

P-ADWAX22 **11/14**
CAS: 9040-27-1

STRUCTURE:



Schematic representation of wheat arabinoxylan unit (Ara:Xyl = 22:78)

PREPARATION:

Prepared by controlled acid hydrolysis of wheat flour arabinoxylan.

PROPERTIES:

Purity:	> 94% (dw basis). Glucose, galactose and mannose < 2%
Sugar Ratio:	Arabinose:Xylose = 22:78
Viscosity:	1.0 cSt (1% w/v; Ostwald C-type viscometer, 30°C)
Starch:	< 0.2%
Beta-Glucan:	< 0.1%
Protein:	2.3%
Moisture:	1.5%
Ash:	2.0%
Physical Description:	Slightly off-white, odourless powder

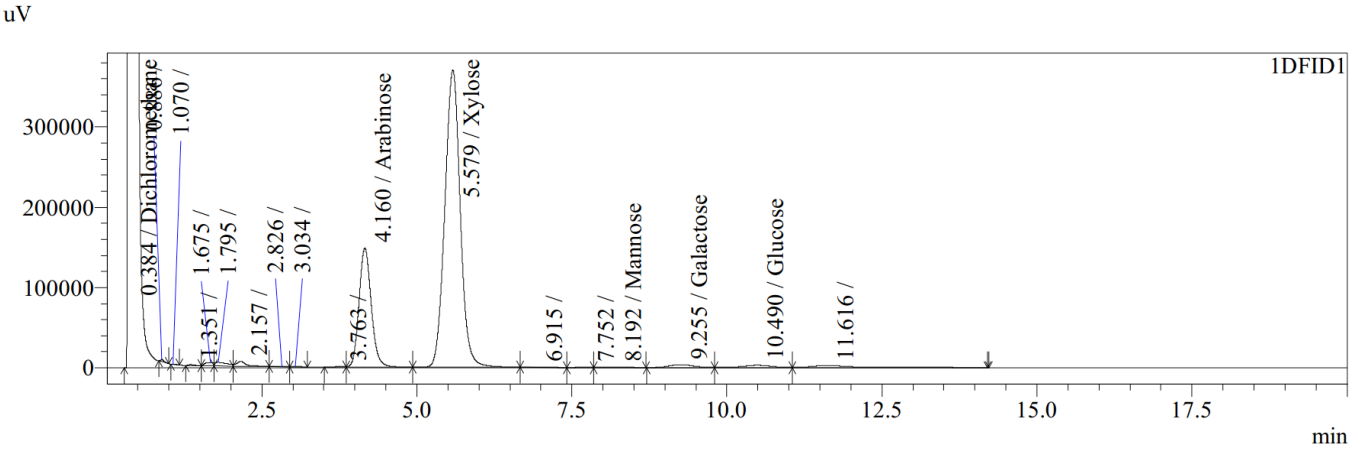
STORAGE CONDITIONS:

Store dry at room temperature in a well sealed container. Under these conditions, the product is stable for several years.

METHOD OF DISSOLUTION (for 1% w/v solution):

Accurately weigh 1 g of arabinoxylan into a 120 mL dry pyrex beaker. Wet the sample with 5 mL of 95% ethanol. Add a magnetic stirrer bar, followed by 90 mL of distilled water. Immediately place the beaker containing the slurry on a magnetic stirrer-hotplate and heat at a setting of 100°C with vigorous stirring. Loosely cover the beaker with aluminium foil and stir and boil the contents until the arabinoxylan completely dissolves (approx. 10 min). Allow the solution to cool to room temperature with continued stirring. Adjust the volume to 100 mL. The solution may be very slightly opalescent due to the presence of trace amounts of protein. Arabinoxylans arabinose contents as low as 22% tend to precipitate from solution at room temperature. If this occurs, simply heat the solution to approximately 80°C and use soon after the temperature is re-adjusted to room temperature.

Gas liquid chromatography of the alditol acetates derived from hydrolysis and derivatisation of low viscosity, acid debranched wheat arabinoxylan (Lot 140501a)



GLC:

A typical polysaccharide sample (~ 10 mg) was hydrolysed using 2N TFA at 120°C for 60 min. Subsequent sodium borohydride reduction was performed in 1N NH_4OH for 90 minutes at 40°C. The corresponding alditol acetates were prepared using acetic anhydride and 1-methyl imidazole, extracted into DCM and analysed by GC. Chromatography was performed on a Shimadzu GC-2014 with LabSolutions LC/GC 5.42 Software using a Packed glass column (6 ft x 5 mm OD, 3 mm ID) with 3% Silar 10C on W-HP (80-100 mesh). The carrier gas was nitrogen at 225 KPa. Injector temperature; 250°C; Column temperature; 230°C. Detection by FID with 100 KPa H_2 pressure and 50 KPa air pressure.