

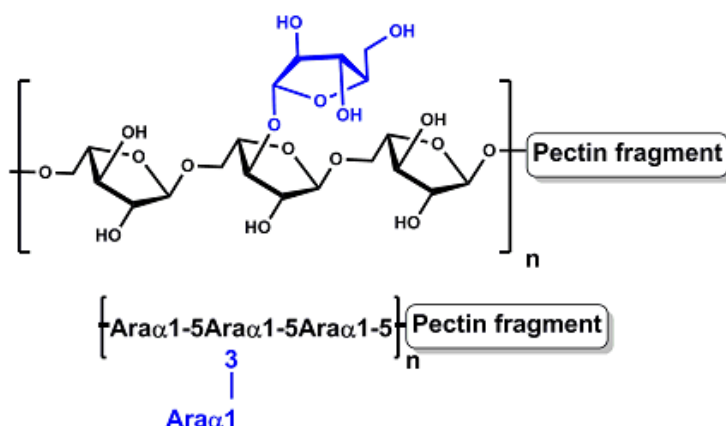
ARABINAN (SUGAR BEET) (Lot I30801a)

P-ARAB

06/19

CAS: 11078-27-6

STRUCTURE



Schematic representation of Arabinan.

PREPARATION

Arabinan is extracted from sugar-beet pulp with calcium hydroxide solution at 90°C. The recovered arabinan is subsequently purified by precipitation and treatment with ion-exchange resins. Sugar beet arabinan consists of a 1,5- α -linked backbone to which 1,3- α -linked (and possibly some 1,2- α -linked) L-arabinofuranosyl residues are attached. Approximately 60% of the main-chain arabinofuranosyl residues are substituted by single 1,3-linked arabinofuranosyl groups. The reducing terminal arabinosyl residue is attached through rhamnose to fragments of the rhamnogalacturonan backbone of the native pectin molecule.

PROPERTIES

Sugar Composition:	Arabinose 74.1%, Galactose 13.3%, Rhamnose 1.4%, Galacturonic acid 8.3%, Other sugars 2.9%
Protein:	3.2%
Ash:	5.3%
Physical Description:	off-white, odourless powder

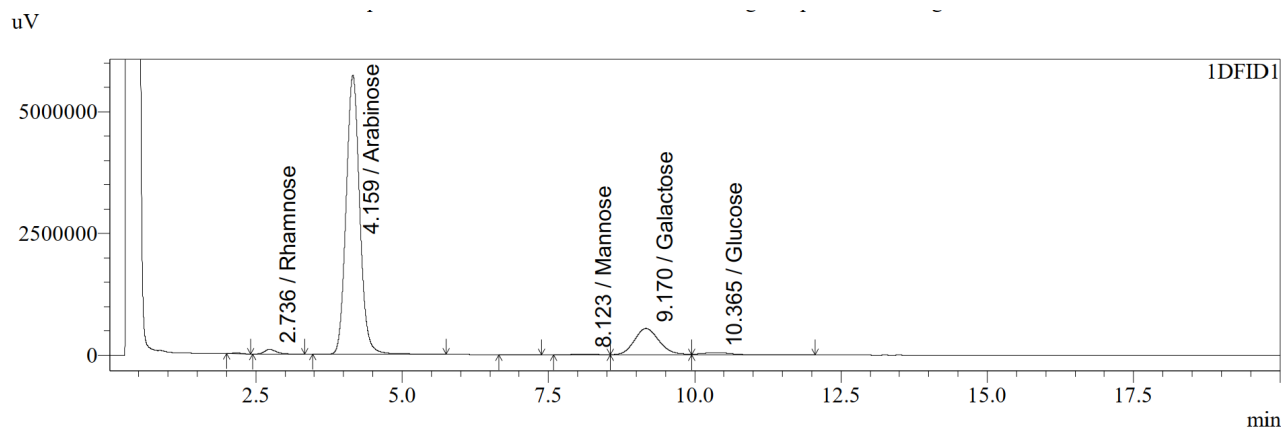
STORAGE CONDITIONS

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

DISSOLUTION:

Arabinan is readily soluble in cold water. Arabinan concentrations of up to 20% w/v can be achieved in hot water.

Gas liquid chromatography of the alditol acetates derived from hydrolysis and derivatisation of Arabinan (sugar beet) lot I30801a.



GLC

A typical polysaccharide sample (~ 10 mg) was hydrolysed using 2 N TFA at 120°C for 60 min. Subsequent sodium borohydride reduction was performed in 1N NH₄OH for 90 min 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 H₂ pressure and 50 KPa air pressure.