APPLICATION**SHEET**

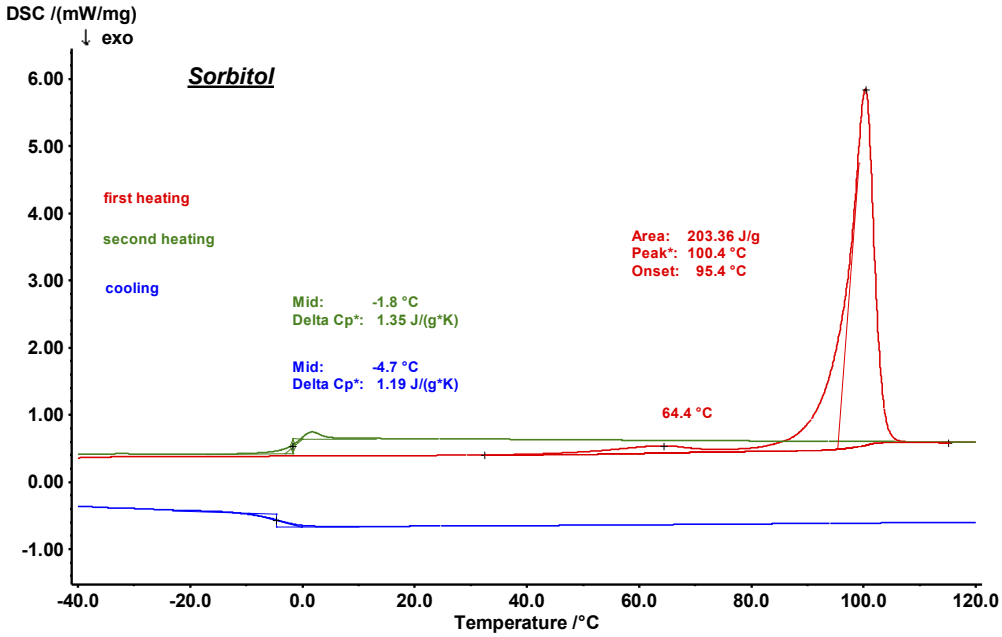
Organics – Food Industry

DSC 204 ***F1*** *Phoenix®*

Sorbitol – Phase Transition

Introduction

Sorbitol, also known as glucitol, is a sugar alcohol the body metabolises slowly. It is obtained by hydrogenation of glucose taking the aldehyde group to an additional hydroxyl group hence the name sugar alcohol. Sorbitol is a sugar substitute often used in diet foods (including diet drinks).



Test Conditions

Temperature range:	-50°C ... 200°C
Heating/cooling rates:	10 K/min
Atmosphere:	Nitrogen
Sample mass:	6.14 mg
Crucible:	Aluminum, pierced lid
Purge gas flow:	40 ml/min

Test Results

The ratio of amorphous to crystalline can be changed by temperature treatment. With fast cooling rates, the crystallization can be suppressed, whereas slow cooling rates usually allow the material to crystallize. An entirely crystalline sorbitol sample was measured starting from sub-ambient temperature up to 120°C (above the melting point). During cooling at 10 K/min, the crystallization is suppressed and the sample remains completely amorphous indicated by the glass transition. Furthermore during the second heating, only a glass transition but no melting was detected.

NGB · Application Sheet 118 · E · 2020 · Technical specifications are subject to change.

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