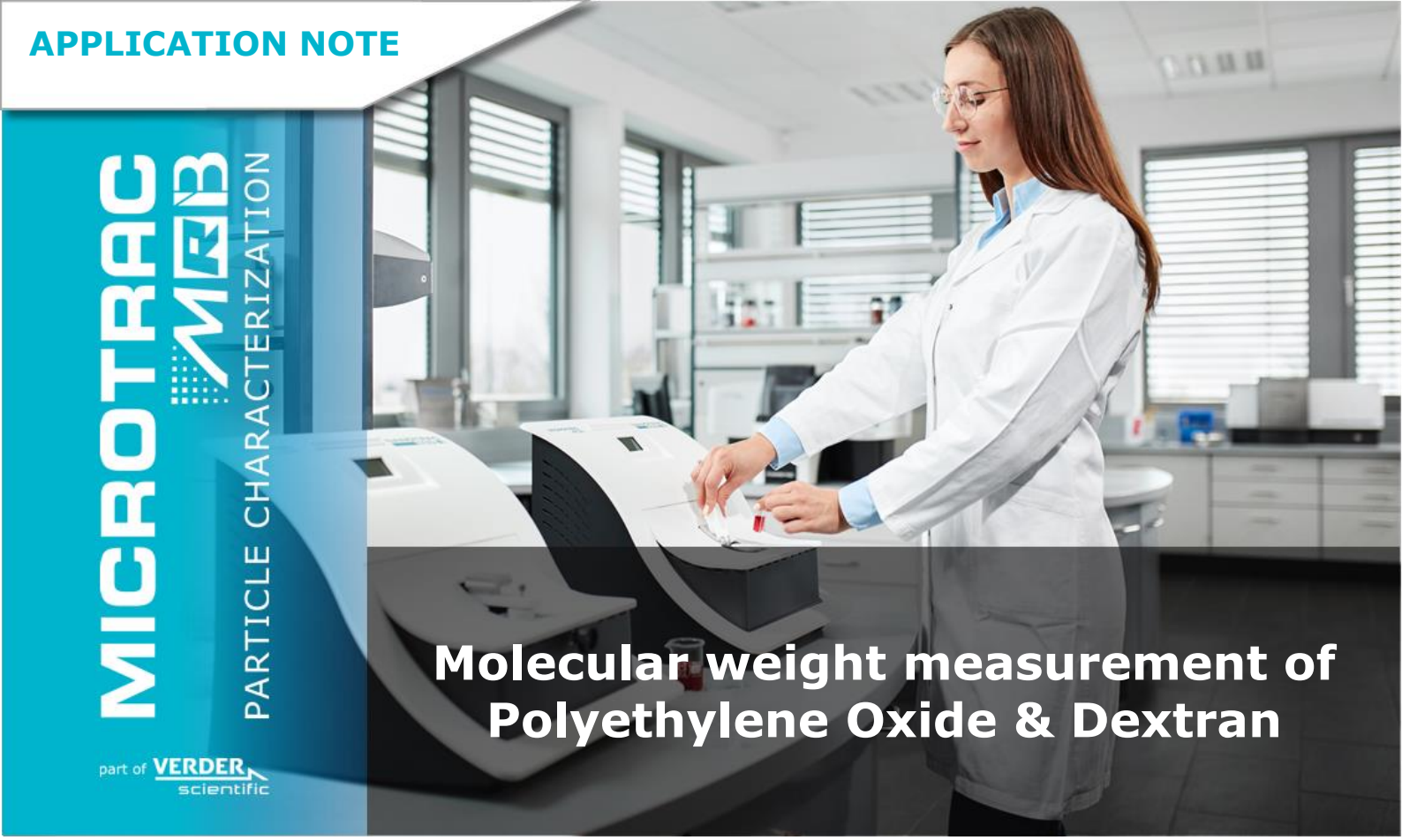
APPLICATION NOTE

MICROTRAC MRB

PARTICLE CHARACTERIZATION

part of VERDER scientific



Molecular weight measurement of Polyethylene Oxide & Dextran

Introduction

Molecular weight determination of polymers provides useful information such as stability, structure and complexation. Several techniques exist for measuring molecular weight but either yield relative values or have low resolution. However, one method of characterizing molecular weight is light scattering from macromolecules in solution. The relationship between molecular weight and scattering intensity is based on the Brownian motion of the particles in solution. This scattered light is referred to as Rayleigh scattering which is when the particles' scattered light is much smaller than the wavelength of the incident light.

DYNAMIC LIGHT SCATTERING

Microtrac Dynamic Light Scattering (DLS) instruments of the Nanotrac series are capable for measuring the molecular weight along with particle size of macromolecules. One big advantage is the simultaneous measurement of particle size and molecular weight over a concentration range.

The Nanotrac DLS product line consists of the Nanotrac Flex, Wave II and Wave II Q which measures particle size, zeta potential, concentration, and molecular weight. The difference in design gives the choice between a wide array of measurement cells used to satisfy the need of any application. It also allows the measurement of samples over a wide concentration range, monomodal or multimodal samples independent of prior knowledge of particle size.