DOSSIER ON TITANIUM DIOXIDE
- PART 3 - NM 101
ANNEX 1

Series on the Safety of Manufactured Nanomaterials
No. 54

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## Standard Operating Procedure

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1 Introduction and Aim
The aim of this guideline is to describe the preparation of a NM 101-suspension.

2 Materials and Instruments
- Ultrasonic probe (e.g. Sonoplus 200 W, BANDELIN electronic GmbH & Co. KG, Berlin, Germany)
- 250 ml beakers for the suspensions
- Demineralized water for the suspensions
- General labware
- NM 101 (Sachtleben, Chemie GmbH, Duisburg, Germany; the material was provided by the Working Party of Manufactured Nanomaterials (WPMN) of the OECD)

3 Procedures and Descriptions

3.1 Test Beakers
Nanomaterial suspensions are prepared in commercially available 250 ml beakers.

3.2 Preparation of the Nanomaterial-Suspension
The nanomaterial is weighed and then stirred into demineralized water with a spatula. Next, the ultrasonic probe is immersed 1.5-2 cm into the suspension. Samples are treated with pulsed ultrasound waves (0.2 s pulse, 0.8 s pause; 100% power) for 15 min. To prevent heating of the suspension the beaker is placed into an ice bath. The ultrasonication time must be adapted to the volume of the prepared suspension, diameter of the beaker glass, the concentration of the nanoparticles and the rated power of the ultrasonic instrument.

4 Collection of Raw Data
Following raw data has to be collected:
- Preparation of the nanomaterial-suspension
- pH

5 Safety Recommendations
The safety recommendations for handling the test substance are listed in the specific safety data sheets.