



# *Protocol for Determination of Photostability of UV-Filters*

BASF AG

## **Principle**

### **1. Equipment:**

Suntest instrument from Heraeus (Xenon lamp 1.1 kW, illumination 150 klx, quartz filter Suprax)

Glass plates 5.0 x 3.0 cm

fraised area 4.0 x 2.5 cm, depth 2.0 mm

### **2. Photometer:**

Spectralphotometer Lambda 5 from Perkin Elmer

### **3. Samples:**

*for oil-soluble UV-filters*

66.5% Ethanol

28.5% Isopropylmyristate

5.0% UV-filter

*for water-soluble UV-filters*

66.5% Ethanol

28.5% Finsolv TN (C12-15 Alkyl Benzoate)

5.0% UV-filter

20µl of the above solution are spread on the fraised area of the glass plate and allowed to dry for 30 minutes before exposure to the UV-light. During exposure the temperature inside of the Suntest apparatus is kept below 40°C by water cooling. Exposure time: 30 minutes.

### **4. Work up and analysis:**

Exposed samples are immersed in 50 ml of Ethanol, diluted to 100 ml and analyzed spectrophotometrically.

## Validation

The test method was validated by repeated determination of the photostability of Parsol 1789. Ten measurements were done by three different persons. The following data were obtained.

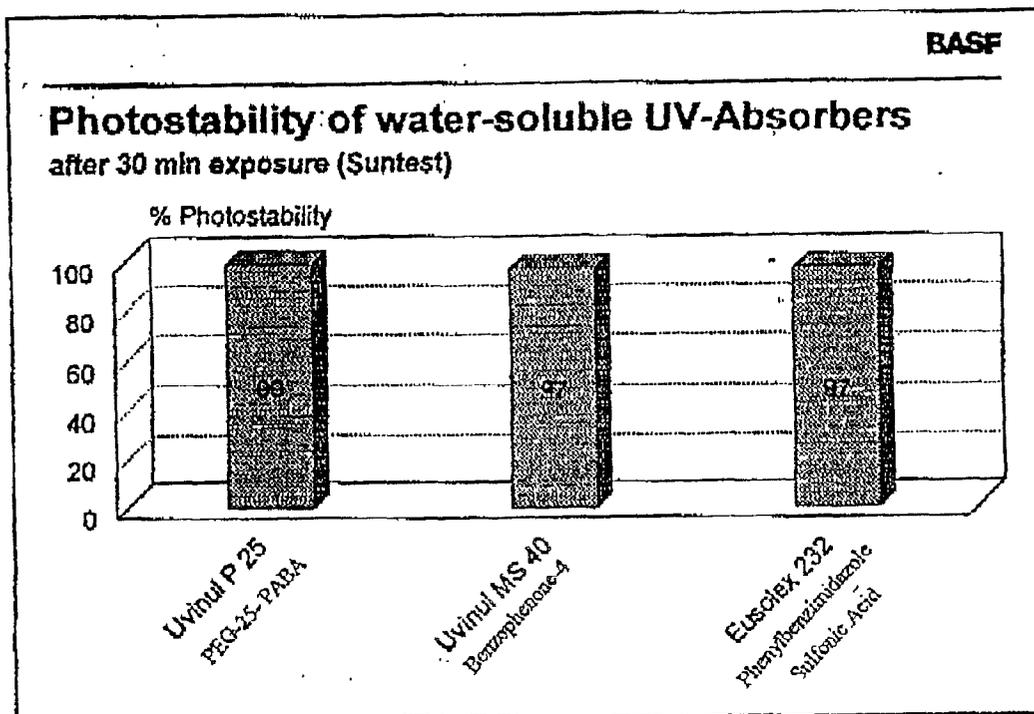
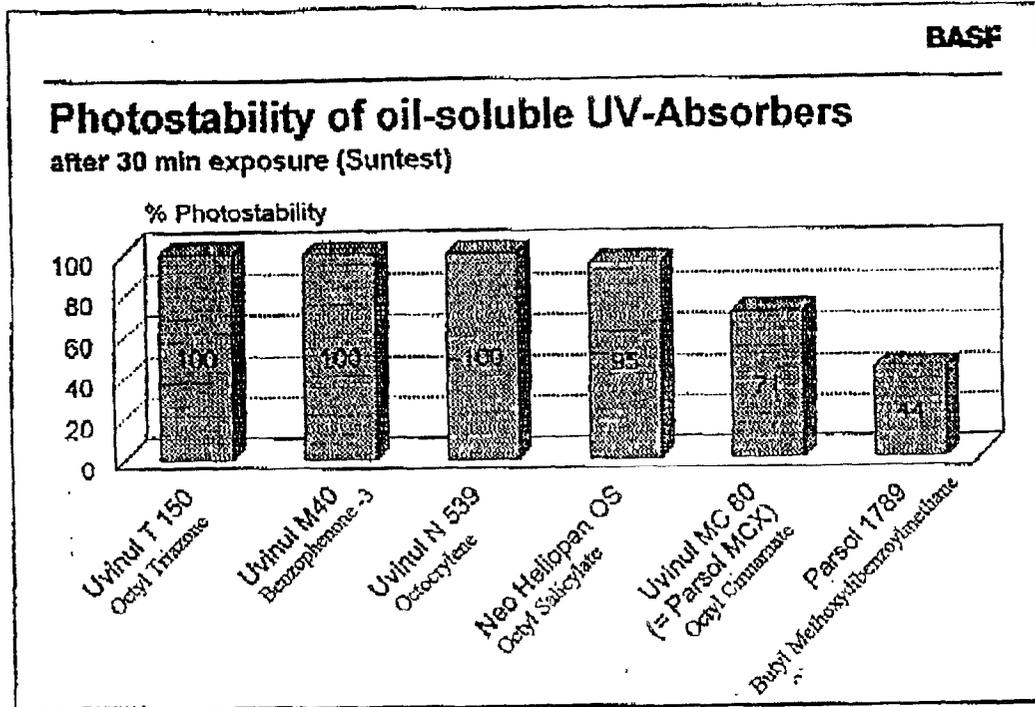
Run	Photostability (%)
1	44
2	46
3	44
4	47
5	47
6	45
7	42
8	42
9	43
10	42

Mean: 44.2%

Standard deviation: 1.989

## Results

The obtained results are presented in the following charts.



# Photostability of some UV-Absorbers

after 30 min exposure (Suntest)

