



JOINT RESEARCH CENTRE
Directorate F – Health and Food

REFERENCE MATERIAL PRODUCT INFORMATION SHEET

EURM[®]- 060 WATER

DESCRIPTION OF THE MATERIAL

EURM-060 comprises three components: polyethylene terephthalate (PET) particles embedded in a NaCl carrier in a 10 mL amber vial (EURM-060a); 60 mL of a surfactant solution (0.1 % Triton X-100 in water) in a 100 mL amber glass vial (EURM-060b) and 950 mL of deionised water in a 1 L transparent glass bottle (EURM-060c). In order to prepare the reference material, the PET particles must be transferred to (reconstituted in) the water using the provided surfactant solution according to the reconstitution protocol given under the instructions for use.

HOMOGENEITY AND STABILITY INFORMATION

Homogeneity of the PET particle number concentration was assessed by Raman spectroscopy coupled with optical microscopy. The particle size is above 30 µm. The relative standard deviation of the results from nine units is 10 %. Homogeneity of the total particle mass concentration was assessed gravimetrically. The relative standard deviation of the results from eight units is 10 %.

Transport stability was assessed by exposing the selected units to transport conditions and additional shock test. Storage stability was assessed via isochronous studies. For the total particle mass concentration, the study time was 14 months at 18 °C; for the PET particle number concentration, the study time was 6 months at 18 °C.

INTENDED USE

Quality control and assessment of the precision performance of analytical methods used for determining the number concentration of PET particles (larger than 30 µm minimum Feret diameter) in water and the particle mass concentration in water.

DISCLAIMER

EURM-060 is **not** a certified reference material; it should therefore not be used as a reference in a metrological traceability chain such as for demonstrating method trueness or for calibration.

This information sheet is valid for one year after purchase.

Sales date:

The minimum amount of sample to be used is 1 L; subsampling is not allowed.

Geel, November 2024

Signed: _____

A handwritten signature in blue ink, appearing to read "R. Koeber", written over a horizontal line.

Dr. Robert Koeber
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European Commission, Joint Research Centre
Directorate F – Health and Food
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Additional Material Information	
	Range ¹⁾
Number concentration* of PET particles with minimum Feret diameter above 30 µm	(304-500) particles/L
Total particle mass concentration* after filtration through a 5 µm pore size filter	(0.33-0.53) mg/L
<p>1) These values refer to values that were obtained in the course of the homogeneity and stability studies. They derive from a single laboratory. They are stated without an uncertainty and give merely information about material properties that may be of interest for the user.</p> <p>*after reconstitution</p>	

ANALYTICAL METHODS USED

Gravimetry

Raman spectroscopy coupled with optical microscopy

PARTICIPANTS

The following laboratories performed measurements in the scope of the homogeneity and stability studies:

European Commission, Joint Research Centre, Directorate F – Health and Food, Geel, BE

Technical University of Munich (TUM), Institute for Hydrochemistry, Munich, DE

SAFETY INFORMATION

The usual laboratory safety precautions apply.

INSTRUCTIONS FOR USE

To make EURM-060 ready for use, the material has to be reconstituted according to the following procedure:

1. Make sure all solid contents are located at the bottom of the small vial with the NaCl carrier. If this is not the case, shake/tap the vial to transfer the solids to the bottom. Then, carefully open the vial and make sure that the rubber insert is intact.
2. Take one portion of 5 mL of Triton X-100 solution (EURM-060b) and use it to rinse the inner side of the insert of the small vial (EURM-060a) directly collecting the rinse liquid into the 1 L glass bottle containing 950 mL of water (EURM-060c). This is to transfer particles that may be stuck on the insert.
3. Next, transfer one portion of 5 mL of Triton X-100 solution (EURM-060b) into the small vial (EURM-060a). Rotate the small vial gently in order to dissolve the salt cake and disperse the PET content, while avoiding the formation of foam. Pour the resulting suspension into the 1 L glass bottle by rotating the vial to ensure quantitative transfer of the contents.
4. Repeat the step above eight times, so the total used volume of Triton X-100 solution equals 50 mL.
5. Subsequently, the 1 L water sample (950 mL + 50 mL) is ready for measurements.

Note: Preferably, use glassware (measuring cylinder/glass pipettes) and avoid plastic pipette tips. Be careful not to touch the solid content of the vial.

It is not recommended to keep the reconstituted sample, it should be used immediately.

Dispose in accordance with good laboratory practice.

For general information on handling of reference materials, please see ERM Application Note 6, available on <https://crm.jrc.ec.europa.eu/e/132/User-support-Application-Notes>.

STORAGE

EURM-060 in its original form (non-reconstituted) can be stored at $(18 \pm 5) ^\circ\text{C}$.

For more information regarding the shelf life of reference materials please see ERM Application Note 7, available on <https://crm.jrc.ec.europa.eu/e/132/User-support-Application-Notes>.

Please note that the stability of samples after opening has not been tested. The European Commission cannot be held responsible for changes that happen to samples after opening or when the material is stored differently from the stated storage conditions at the customer's premises.

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NOTE

A detailed report is available at <https://crm.jrc.ec.europa.eu/>.

