Operational analysis in the metal industry

A) Determination of **total** heavy metal **content**, as required by legislation concerning wastewater or selfmonitoring

→ **Homogenise the sample** with a magnetic stirrer for 60 sec. at a speed at which the vortex is about 10 % below the surface of the liquid

- Crack Set LCW902
  - Lead LCK306
  - Cadmium LCK308
  - Iron LCK321 LCK521*
  - Copper LCK329 LCK529
  - Nickel LCK337 LCK537
  - Zinc LCK360
- Chromium LCK313 (digestion takes place in the measurement cuvette)
- Total silver digestion LCW954
  - Silver LCK354

B) Determining the **soluble fraction** of the heavy metal

→ **Filter the sample** with membrane filtration kit LCW904 (1.45 µm) or LCW916 (0.45 µm)

- Lead LCK306
- Cadmium LCK308
- Iron LCK321 LCK521
- Copper LCK329 LCK529
- Nickel LCK337 LCK537
- Zinc LCK360
- Chromium LCK313 Cr VI
- Silver LCK354 LCK355
- Tin LCK359

What should I do if...? ... the sample is coloured?
See document „Sample Specific Blank Value“ (DOC042.52.00280)

C) Verifying the analysis results

- Double determination
- Measure a standard solution (Addista)
- Plausibility checks
  a) Measurements at different dilutions
  b) Spike sample with standard (Addista)

** In the case of LCK521, a reagent blank value must be determined after the digestion (see Work Procedure: “Reagent blank value” LCW902/LCK521)*