

**Certified reference material  
569034  
Heavy metals (Cd, Cr, Pb)  
in ABS resin  
- low concentration pellet**



**Notice:** This reference material should be kept at room temperature and should not be shined directly upon.

This reference material can be used to control the precision of analysis or to confirm the validity of analytical methods or instruments during the quantitative determination of the metals (Cd, Cr and Pb) in ABS resin.

Profile: This is a material prepared from commercial ABS resin and heavy metal compounds; whereby the concentrations of Cd, Cr and Pb are certified. The certified values were determined mainly using primary methods of measurement.

**Certified values  
(mass fraction, mg/kg)**

Cd	10.77 ± 0.20
Cr	27.87 ± 0.35
Pb	108.9 ± 0.89

(The value after “±” of each certified value indicates an expanded uncertainty determined with the coverage factor  $k = 2$ ; it defines an interval estimated to have a level of confidence of approximately 95%.)

Net weight: 25 g (kept in a glass bottle)

**Certified reference material  
569035  
Heavy metals (Cd, Cr, Pb)  
in ABS resin  
- high concentration pellet**



**Notice:** This reference material should be kept at room temperature and should not be shined directly upon.

This reference material can be used to control the precision of analysis or to confirm the validity of analytical methods or instruments during the quantitative determination of the metals (Cd, Cr and Pb) in ABS resin.

Profile: This is a material prepared from commercial ABS resin and heavy metal compounds; whereby the concentrations of Cd, Cr and Pb are certified. The certified values were determined mainly using primary methods of measurement.

**Certified values  
(mass fraction, mg/kg)**

Cd	106.9 ± 1.37
Cr	269.5 ± 4.5
Pb	1084 ± 9.4

(The value after “±” indicates an expanded uncertainty determined with the coverage factor  $k = 2$ ; it defines an interval estimated to have a level of confidence of approximately 95%.)

Net weight: 25 g (kept in a glass bottle)

**Certified reference material  
569036  
Heavy metals (Cd, Cr, Pb)  
in ABS resin  
- low concentration disk**



**Notice:** This reference material should be kept at room temperature and should not be shined directly upon.

This reference material can be used to control the precision of analysis or to confirm the validity of analytical methods or instruments for X-ray fluorescence analysis of the metals (Cd, Cr and Pb) in ABS resin.

Profile: This is a material prepared from commercial ABS resin and heavy metal compounds; whereby the concentrations of Cd, Cr and Pb are certified. The certified values were determined using isotope dilution mass spectrometry as a primary method of measurement.

**Certified values  
(mass fraction, mg/kg)**

Cd	10.70 ± 0.38
Cr	27.51 ± 0.46
Pb	108.28 ± 1.24

(The value after “±” indicates an expanded uncertainty determined with the coverage factor  $k=2$ ; it defines an interval estimated to have a level of confidence of approximately 95%.)

Form: a disk of diameter 30 mm and thickness 2 mm (kept in a plastic case)

**Certified reference material  
569037  
Heavy metals (Cd, Cr, Pb)  
in ABS resin  
- high concentration disk**



**Notice:** This reference material should be kept at room temperature and should not be shined directly upon.

This reference material can be used to control the precision of analysis or to confirm the validity of analytical methods or instruments for X-ray fluorescence analysis of the metals (Cd, Cr and Pb) in ABS resin.

Profile: This is a material prepared from commercial ABS resin and heavy metal compounds; whereby the concentrations of Cd, Cr and Pb are certified. The certified values were determined using isotope dilution mass spectrometry as a primary method of measurement.

**Certified values  
(mass fraction, mg/kg)**

Cd	107.4 ± 3.5
Cr	268.1 ± 2.1
Pb	1076.9 ± 6.7

(The value after “±” indicates an expanded uncertainty determined with the coverage factor  $k=2$ ; it defines an interval estimated to have a level of confidence of approximately 95%.)

Form: a disk of diameter 30 mm and thickness 2 mm (kept in a plastic case)



**Certified reference material  
569039  
Heavy metals (Cd, Cr, Hg, Pb)  
in ABS resin  
- high concentration pellet**



**Notice:** This reference material should be kept at room temperature and should not be shined directly upon.

This reference material can be used to control the precision of analysis or to confirm the validity of analytical methods or instruments during the quantitative determination of the metals (Cd, Cr, Hg and Pb) in ABS resin.

Profile: This is a material prepared from commercial ABS resin and heavy metal compounds; whereby the concentrations of Cd, Cr, Hg and Pb are certified. The certified values were determined mainly using primary methods of measurement.

**Certified values  
(mass fraction, mg/kg)**

Cd	93.93 ± 1.45
Cr	943.6 ± 18.0
Hg	941.5 ± 24.4
Pb	945.0 ± 9.8

(The value after “±” indicates an expanded uncertainty determined with the coverage factor  $k=2$ ; it defines an interval estimated to have a level of confidence of approximately 95%.)

Net weight: 25 g (kept in a glass bottle)

**Certified reference material  
569038  
Polybrominated diphenyl ethers  
in polystyrene**



This reference material can be used to control measuring precision, and to confirm the validity of measuring methods when determining the decabrominated diphenyl ether (CAS No: 1163-19-5) in polystyrene.

Profile: Mass fraction of decabrominated diphenyl ethers in polystyrene was determined by gas chromatography coupled with mass spectroscopy (GC/MS) and liquid chromatography. In addition, uncertainty is determined in accordance with international documentation (GUM).

**Certified value (mass fraction, mg/kg)**

Decabrominated diphenyl ether : 317 ± 14

(The value after “±” indicates an expanded uncertainty determined with the coverage factor  $k=2$ ; it defines an interval estimated to have a level of confidence of approximately 95%.)

Form: Disk of diameter 30 mm and thickness 2 mm  
(5 pieces in an aluminum coated pouch)