

## 104.1 - High Purity Metals (solid forms)

These SRMs are intended for determining impurity elements in high purity metals.

PLEASE NOTE: The tables are presented to facilitate comparisons among a family of materials to help customers select the best SRM for their needs. For specific values and uncertainties, the certificate is the only official source.

| SRM  | 682              | 683              | 728                      | 885                       |
|--|------------------|------------------|--------------------------|---------------------------|
| Description  | High-Purity Zinc | Zinc, Metal      | Intermediate-Purity Zinc | Refined Copper (pin form) |
| Unit of Issue  | (half-round bar) | (half-round bar) | (pellet form, 450 g)     | (pin form, 200 g)         |
| <b>Concentrations are in mass fractions, in mg/kg (ppm), unless noted as %</b> |                  |                  |                          |                           |
| <b>Aluminum (Al)</b>   |                  |                  |                          |                           |
| <b>Antimony (Sb)</b>   |                  |                  |                          | <0.0002 %                 |
| <b>Arsenic (As)</b>  |                  |                  |                          | <0.0002 %                 |
| <b>Bismuth (Bi)</b>  |                  |                  |                          | <0.0001 %                 |
| <b>Boron (B)</b>   |                  |                  |                          |                           |
| <b>Cadmium (Cd)</b>  | (0.1)            | 1.1              | 1.14                     |                           |
| <b>Calcium (Ca)</b>  |                  |                  |                          |                           |
| <b>Chromium (Cr)</b>   |                  |                  |                          |                           |
| <b>Copper (Cu)</b>   | 0.042            | 5.9              | 5.68                     |                           |
| <b>Gold (Au)</b>   |                  |                  | <0.02                    |                           |
| <b>Indium (In)</b>   |                  |                  | <0.0005                  |                           |
| <b>Iridium (Ir)</b>  |                  |                  | <0.005                   |                           |
| <b>Iron (Fe)</b>   | (0.1)            | 2.2              | 1.84                     | <0.0005 %                 |
| <b>Lead (Pb)</b>   |                  | 11.1             | 11.13                    | 0.0002 %                  |
| <b>Magnesium (Mg)</b>  | <0.1             |                  | <0.001                   |                           |

**Concentrations are in mass fractions, in mg/kg (ppm), unless noted as %**

|                        |        |       |        |           |
|------------------------|--------|-------|--------|-----------|
| <b>Manganese (Mn)</b>  |        |       |        |           |
| <b>Molybdenum (Mo)</b> |        |       |        |           |
| <b>Nickel (Ni)</b>     | <0.1   |       | (0.45) | <0.0001 % |
| <b>Oxygen (O)</b>      | <0.5   |       |        | 0.031 %   |
| <b>Palladium (Pd)</b>  |        |       | <0.05  |           |
| <b>Rhodium (Rh)</b>    |        |       | <0.05  |           |
| <b>Selenium (Se)</b>   |        |       |        | <0.0001 % |
| <b>Silver (Ag)</b>     | (0.02) | 1.3   | 1.08   | 0.0005 %  |
| <b>Sulfur (S)</b>      |        |       |        | 0.0018 %  |
| <b>Tellurium (Te)</b>  |        |       |        | <0.0001 % |
| <b>Thallium (Tl)</b>   |        | (0.2) | 0.2    |           |

- Certified values are normal font
- Reference values are italicized
- Values in parentheses are for information only

#### 104.1 - High Purity Metals (solid forms)

These SRMs are intended for determining impurity elements in high purity metals.

PLEASE NOTE: The tables are presented to facilitate comparisons among a family of materials to help customers select the best SRM for their needs. For specific values and uncertainties, the certificate is the only official source.

|                       |        |        |             |             |
|-----------------------|--------|--------|-------------|-------------|
| <b>Tin (Sn)</b>       | (0.02) | (0.02) | <i>0.02</i> | (<0.0001 %) |
| <b>Zinc (Zn)</b>      |        |        |             | (<0.0001 %) |
| <b>Zirconium (Zr)</b> |        |        | (<0.01)     |             |

- Certified values are normal font
- Reference values are italicized
- Values in parentheses are for information only