



## Technical Definition

Chemical analysis  
Waspaloy

### Instructions to participant laboratories

Carefully read these instructions **BEFORE** starting the tests.

- One specimen is supplied to each participant.  
Laboratory shall submit a report for each accredited element for each accredited method.
- For each method, 4 complete analyses shall be performed as follows:
  - One technician shall perform all analyses.
  - One analysis shall be performed on each of four days.
  - If the method uses a solution specimen, a new solution shall be made for each analysis.
- Each participant is required to report the following elements to the indicated precision regardless of their normal practice.  
Below is a table summarizing for each element what methods will be accepted and the number of significant digits required.

Kit 8-2-2016	Waspaloy	Precision	1	2	3	4	5	7	8	9	10	11	12
Al	Aluminium	x.xxx			GDMS	ICP	ICPMS	SPK	WET	XRF			
B	Boron	x.xxxx		Flame AA	GDMS	ICP	ICPMS	SPK	WET	XRF	GFA		
C	Carbon	x.xxx	COMB					SPK	WET				
Cr	Chromium	x.xxx			GDMS	ICP	ICPMS	SPK	WET	XRF			
Co	Cobalt	x.xxx			GDMS	ICP	ICPMS	SPK	WET	XRF			
Cu	Copper	x.xxxx		Flame AA	GDMS	ICP	ICPMS	SPK	WET	XRF	GFA		
Fe	Iron	x.xxx			GDMS	ICP	ICPMS	SPK	WET	XRF			
H	Hydrogen	x.xxxxx							WET			IGF	VF
Mn	Manganese	x.xxxx		Flame AA	GDMS	ICP	ICPMS	SPK	WET	XRF	GFA		
Mo	Molybdenum	x.xxx			GDMS	ICP	ICPMS	SPK	WET	XRF			
N	Nitrogen	x.xxxx						SPK	WET			IGF	
Ni	Nickel	x.xx			GDMS	ICP	ICPMS	SPK	WET	XRF			
O	Oxygen	x.xxxx						SPK	WET			IGF	
Si	Silicon	x.xxxx		Flame AA	GDMS	ICP	ICPMS	SPK	WET	XRF	GFA		
Ti	Titanium	x.xxx			GDMS	ICP	ICPMS	SPK	WET	XRF			
Zr	Zirconium	x.xxxx		Flame AA	GDMS	ICP	ICPMS	SPK	WET	XRF	GFA		
(Ag)	Silver	x.xxxx		Flame AA	GDMS	ICP	ICPMS	SPK	WET	XRF	GFA		
(Bi)	Bismuth	x.xxxxx		Flame AA	GDMS	ICP	ICPMS	SPK	WET	XRF	GFA		
(P)	Phosphorus	x.xxxx		Flame AA	GDMS	ICP	ICPMS	SPK	WET	XRF	GFA		
(Pb)	Lead	x.xxxxx		Flame AA	GDMS	ICP	ICPMS	SPK	WET	XRF	GFA		
(S)	Sulfur	x.xxx	COMB					SPK	WET				
(Se)	Selenium	x.xxxxx		Flame AA	GDMS	ICP	ICPMS	SPK	WET	XRF	GFA		

Elements in ( ) are "not for Classification"

Figure 1 : Elements and significant digits



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Method	Method Code
Combustion (COMB)	1
Flame Atomic Absorption (Flame AA)	2
Glow Discharge Mass Spectro (GDMS)	3
Inductively Coupled Plasma (ICP)	4
Inductive Coupled Plasma Mass Spec (ICPMS)	5
Other	6
Spark/Arc OES	7
Wet Chemistry (WET)	8
X-Ray Fluorescence (XRF)	9
Graphite Furnace Atomic Absorption (GFA)	10
Inert Gas Fusion (IGF)	11
Vacuum Fusion (VF)	12

Figure 2 : Analytical methods

4. You will have to submit a separate results form for each method used, completing the elements performed by the method.

Each element shall be reported in Percent Concentration, to the precision (the number of significant digits) indicated.

Non-quantified elements, such as “remainder”, “balance”, “less than”, “not detected,” etc., shall not be reported.

Elements calculated by difference shall not be reported.

Elements shall not be reported in PPM or any other measure than Percent Concentration.

5. The following additional information is to be reported:
- Equipment make, model, year
  - Type of reference standard: alloy match, matrix match, none
  - Other means of standardization: please explain
6. Testing may commence as soon as test specimen is received. All participant laboratories must supply results May 15<sup>th</sup>, 2016.
7. Instructions for submission of results are detailed on the website:
- <https://ptpscheme.com>**
8. To ensure the confidential treatment of your results in the final report, you will be allocated a unique identity number when you register for the program.