

Composition output: PM: Lead bullion precious metal rich (10) version 'G10 Lead bullion - Cluster 1 - 140220' (Tier 1)

Tier 1: Classification based on speciation of elements

Metal speciation/metal mineralogy can be assessed from sequential extraction/metal analysis and mineralogical analysis (XRD and microscopes equipped with EDS (Energy Dispersive Spectrometry) and WDS (Wavelength Dispersive Spectrometry) analyzers. The determination of the speciation requires in-depth knowledge of metal particularities. The classification is based on elemental and speciation data and worst-case 100% dissolution assumption.

In case of classification, [further refinement \(f.e. TDP data\) can be obtained from the consortia for the major drivers.](#)



Generated on: 20/02/2014 at 18:10

Please visit www.meclas.eu for more information.

Input values:

Element	Conc.% (user input)	Conc.% (ref sample)	Distr.% (ref sample)	Species / Class. entry	Source
Ag	7.500	7.500	100.00	Ag compounds (e.g. AgCl, AgI, AgBr)	self classification EPMF
Al	0.000	0.000	100.00	Al massive/Al compounds	not classified
As	1.000	1.000	100.00	As	Annex VI
Au	0.500	0.500	100.00	Au	not classified
B	0.000	0.000	100.00	B powder	self classification
Ba	0.000	0.000	100.00	Ba	self classification
Be	0.000	0.000	100.00	beryllium compounds with the exception of aluminium beryllium silicates, and with those specified elsewhere in Annex VI	Annex VI
Bi	5.000	5.000	100.00	Bi	not classified
C	0.000	0.000	100.00	inorganic C and C compounds	not classified
Ca	0.000	0.000	100.00	CaO	self classification IMA
Cd	0.000	0.050	100.00	Cd (pyrophoric)	Annex VI
Ce	0.000	0.000	100.00	Ce	self classification
Cl	0.000	0.000	100.00	Cl / Cl compounds	not classified
Co	0.000	0.000	100.00	Co	Annex VI
Cr	0.000	0.000	100.00	Cr	self classification
Cu	10.000	10.000	100.00	Cu powder	self classification ECI
F	0.000	0.000	100.00	F	not classified

Fe	0.000	1.000	100.00	Fe/Fe compounds (e.g. FeS ₂)	not classified
Hg	0.000	0.000	100.00	inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in Annex VI	Annex VI
Ir	3.000	0.000	100.00	Ir/Ir compounds	not classified
K	0.000	0.000	100.00	K/K compounds	not classified
La	0.000	0.000	100.00	La	self classification
Li	0.000	0.000	100.00	Li	Annex VI
Mg	0.000	0.000	100.00	magnesium powder (pyrophoric)	Annex VI
Mn	0.000	0.000	100.00	Mn	self classification
Mo	0.000	0.000	100.00	Mo + not classified Mo compounds	not classified
N	0.000	0.000	100.00	N	not classified
Na	0.000	0.000	100.00	Na ₂ CO ₃	Annex VI
Nb	0.000	0.000	100.00	Nb/Nb compounds	not classified
Ni	5.000	5.000	100.00	Ni powder	1st ATP
O	0.000	0.000	100.00	O	not classified
Os	0.000	0.000	100.00	Os/Os compounds	not classified
P	0.000	0.000	100.00	P/PO ₄	not classified
Pb	60.000	60.000	100.00	Pb powder	self classification
Pd	5.500	12.500	100.00	Pd compounds (e.g. [Pd(NH ₃) ₄](OH) ₂)	self classification EPMF
Pt	5.500	12.500	100.00	Pt compounds with the exception of Pt compounds specified in Annex VI	self classification EPMF
Re	0.000	0.000	100.00	Re	not classified
Rh	3.000	0.000	100.00	Rh compounds	self classification
Ru	5.500	0.000	100.00	Ru compounds	self classification
S	0.000	0.000	100.00	Metal sulfides/sulphates	class see metal specific entry
Sb	2.500	2.500	100.00	Sb compounds, with the exception of the tetroxide (Sb ₂ O ₄), pentoxide (Sb ₂ O ₅), trisulphide (Sb ₂ S ₃), pentasulphide (Sb ₂ S ₅) and those specified elsewhere in Annex VI	Annex VI
Se	0.000	2.500	100.00	Se	Annex VI
Si	0.000	0.000	100.00	SiO ₂ non-crystalline	not classified
Sn	0.000	1.000	100.00	Sn	not classified
Ta	0.000	0.000	100.00	Ta/Ta compounds	self classification
Te	5.000	5.000	100.00	Te compounds (self classification)	self classification
Ti	0.000	0.000	100.00	Titanium	self classification
Tl	0.000	0.000	100.00	Thallium	Annex VI
V	0.000	0.000	100.00	V	not classified
W	0.000	0.000	100.00	W	not classified
Zn	0.000	1.000	100.00	Zn powder-zinc dust (pyrophoric)	Annex VI
Zr	0.000	0.000	100.00	Zr/Zr compounds	not classified

119.000

Intermediate calculations Tier 1 human health

Classification Entry	Concentration (%)	Classification Acute Toxicity - oral	Acute toxicity oral: Conc/ATEi	Classification Acute Toxicity - dermal	Acute toxicity dermal: Conc/ATEi	Classification Acute Toxicity - inhalation	Acute toxicity inh: Conc/ATEi	Classification Skin corrosion/irritation	Classification eye damage/eye irritation
Pb powder	60.0								
Sb compounds, with the exception of the tetroxide (Sb2O4), pentoxide (Sb2O5), trisulphide (Sb2S3), pentasulphide (Sb2S5) and those specified elsewhere in Annex VI	2.500	Cat. 4; H302	0.005			Cat. 4; H332	1.666666666667		
Ni powder	5.00								
Cu powder	10.0								
Bi	5.00								
Ir/Ir compounds	3.00								
Au	0.5000								
As	1.00	Cat. 3; H301	0.01			Cat. 3; H331	2		
Ru compounds	5.500								
Te compounds (self classification)	5.00	Cat. 3; H301	0.05						
Rh compounds	3.00								
Ag compounds (e.g. AgCl, AgI, AgBr)	7.500								
Pt compounds with the exception of Pt compounds specified iin Annex VI	5.500								
Pd compounds (e.g. [Pd(NH3)4](OH)2)	5.500	Cat. 4; H302	0.011						Cat. 2

Classification Entry	Concentration (%)	Classification Resp./Skin sensitisation	Classification mutagenicity	Classification carcinogenicity	Classification Reproductive toxicity	Classification STOT Single exposure	Classification STOT Repeated exposure	Classification Aspiration hazard	Classification Aquatic environment	Aquatic env acute: Conc x M-factor	Aquatic env chronic: Conc x M-factor
Pb powder	60.0				Cat. 1A		STOT RE Cat. 1***		Acute Chronic Cat. 1	6	0.6
Sb compounds, with the exception of the tetroxide (Sb2O4), pentoxide (Sb2O5), trisulphide (Sb2S3), pentasulphide (Sb2S5) and those specified elsewhere in Annex VI	2.500								Chronic Cat. 2	0.025	0.025
Ni powder	5.00	Skin Sens. Cat. 1		Cat. 2			STOT RE Cat. 1***		Chronic Cat. 3	0.05	0.05
Cu powder	10.0								Acute Cat. 1 Chronic Cat. 3	0.1	0.1
Bi	5.00									0.05	0.05
Ir/Ir compounds	3.00									0.03	0.03
Au	0.5000									0.005	0.005
As	1.00								Acute Chronic Cat. 1	0.01	0.01
Ru compounds	5.500								Acute Chronic Cat. 1	0.055	0.055
Te compounds (self classification)	5.00									0.05	0.05
Rh compounds	3.00								Acute Chronic Cat. 1	0.03	0.03
Ag compounds (e.g. AgCl, AgI, AgBr)	7.500								Acute Chronic Cat. 1	75	7.5
Pt compounds with the exception of Pt compounds specified iin Annex VI	5.500								Acute Chronic Cat. 1	0.55	0.55

CLP



Signal word: Danger

Endpoint	Classification	Major driver
Acute toxicity-oral	Cat. 4; H302	Sb compounds, with the exception of the tetroxide (Sb_2O_4), pentoxide (Sb_2O_5), trisulphide (Sb_2S_3), pentasulphide (Sb_2S_5) and those specified elsewhere in Annex VI, As, Te compounds (self classification), Pd compounds (e.g. $[\text{Pd}(\text{NH}_3)_4](\text{OH})_2$)
Acute toxicity-dermal	Not classified	/
Acute toxicity-inhalation	Not classified	/
Skin corrosion/irritation	Not classified	/
Serious eye damage/eye irritation	Not classified	/
Respiratory or skin sensitisation	Skin Sens. Cat. 1; H317	Pd compounds (e.g. $[\text{Pd}(\text{NH}_3)_4](\text{OH})_2$)
Germ cell mutagenicity	Not classified	/
Carcinogenicity	Cat. 2; H351	Ni powder
Reproductive toxicity	Cat. 1A; H360	Pb powder
Specific target organ toxicity - single exposure	Not classified	/
Specific target organ toxicity - repeated exposure	Cat. 1; H372	Pb powder
Aspiration hazard	Not classified	/
Hazardous to aquatic environment - ACUTE	Acute Cat. 1; H400	Pb powder, Ru compounds, Rh compounds, Ag compounds (e.g. AgCl, AgI, AgBr), Pt compounds with the exception of Pt compounds specified in Annex VI, Pd compounds (e.g. $[\text{Pd}(\text{NH}_3)_4](\text{OH})_2$), Cu powder
Hazardous to aquatic environment - CHRONIC	Chronic Cat. 1; H410	Pb powder, Ru compounds, Rh compounds, Ag compounds (e.g. AgCl, AgI, AgBr), Pt compounds with the exception of Pt compounds specified in Annex VI, Pd compounds (e.g. $[\text{Pd}(\text{NH}_3)_4](\text{OH})_2$)

GHS (without EU SCL)**Signal word: Danger**

Endpoint	Classification	Major driver
Acute toxicity-oral	Cat. 4; H302	Sb compounds, with the exception of the tetroxide (Sb ₂ O ₄), pentoxide (Sb ₂ O ₅), trisulphide (Sb ₂ S ₃), pentasulphide (Sb ₂ S ₅) and those specified elsewhere in Annex VI, As, Te compounds (self classification), Pd compounds (e.g. [Pd(NH ₃) ₄](OH) ₂)
Acute toxicity-dermal	Not classified	/
Acute toxicity-inhalation	Not classified	/
Skin corrosion/irritation	Not classified	/
Serious eye damage/eye irritation	Not classified	/
Respiratory or skin sensitisation	Skin Sens. Cat. 1; H317	Pd compounds (e.g. [Pd(NH ₃) ₄](OH) ₂)
Germ cell mutagenicity	Not classified	/
Carcinogenicity	Cat. 2; H351	Ni powder
Reproductive toxicity	Cat. 1A; H360	Pb powder
Specific target organ toxicity - single exposure	Not classified	/
Specific target organ toxicity - repeated exposure	Cat. 1; H372	Pb powder
Aspiration hazard	Not classified	/
Hazardous to aquatic environment - ACUTE	Acute Cat. 1; H400	Pb powder, Ru compounds, Rh compounds, Ag compounds (e.g. AgCl, AgI, AgBr), Pt compounds with the exception of Pt compounds specified in Annex VI, Pd compounds (e.g. [Pd(NH ₃) ₄](OH) ₂), Cu powder
Hazardous to aquatic environment - CHRONIC	Chronic Cat. 1; H410	Pb powder, Ru compounds, Rh compounds, Ag compounds (e.g. AgCl, AgI, AgBr), Pt compounds with the exception of Pt compounds specified in Annex VI, Pd compounds (e.g. [Pd(NH ₃) ₄](OH) ₂)

The MECLAS tool aims to reproduce the classification for complex metal mixtures. Although prepared with great care, flawless operation cannot be guaranteed. Users of the MECLAS tool need to be aware of this. By using the MECLAS tool, users accept full responsibility for their calculations. Neither Arche, Eurometaux or the data providers can take liability for (mis)use of the results.