Composition output: PM: Slimes and sludges (4) version 'G4 Slimes & sludges - Cluster 4 - 140318' (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.

MeClas
METALS CLASSIFICATION TOOL

Generated on: 19/03/2014 at 11:36

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	5.000	66.000	100.00	Ag compounds (e.g. AgCl, AgI, AgBr)	self classification EPMF
Al	3.000	20.000	100.00	Al massive/Al compounds	not classified
As	5.200	10.000	100.00	As2O3 / AsO3	Annex VI
Au	0.300	81.000	100.00	Au compounds	not classified
B	0.000	0.000	100.00	Na2B4O7	1st ATP + self classification (eye irritation)
Ba	1.000	40.000	100.00	BaO2	Annex VI + self classification for ENV
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	0.100	15.000	100.00	Bi	not classified
C	0.800	0.000	100.00	inorganic C and C compounds	not classified
Ca	3.000	0.000	100.00	CaO	self classification IMA
Cd	0.200	10.000	100.00	CdCl2	Annex VI
Ce	0.500	0.000	100.00	Ce compounds	self classification
Cl	3.000	25.000	100.00	Cl / Cl compounds	not classified
Co	0.500	40.000	100.00	CoCl2	1st ATP
Cr	0.200	20.000	100.00	Cr2O3	self classification
Cu	5.000	45.000	100.00	Copper oxychloride	self classification
F	0.000	0.000	100.00	F	not classified

Fe	8.000	45.000	100.00	Fe/Fe compounds (e.g. FeS2)	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	0.100	0.000	100.00	Ir/Ir compounds	not classified
K	0.500	0.000	100.00	K/K compounds	not classified
La	0.000	0.000	100.00	LaCl3	self classification (ECHA dissemination website)
Li	0.000	0.000	100.00	Li	Annex VI
Mg	0.500	0.000	100.00	Mg/Mg compounds	not classified
Mn	0.100	0.000	100.00	MnO2	Annex VI
Mo	0.000	0.000	100.00	MoO3	1st ATP
N	0.000	15.000	100.00	NH3	Annex VI
Na	0.500	0.000	100.00	Na (other not classified compounds/species)	not classified
Nb	0.000	0.000	100.00	Nb/Nb compounds	not classified
Ni	2.000	20.000	100.00	NiCl2	
O	0.000	0.000	100.00	O	not classified
Os	0.000	0.000	100.00	Os/Os compounds	not classified
P	0.200	0.000	100.00	P/PO4	not classified
Pb	7.000	35.000	100.00	lead compounds with the exception of those specified elsewhere in Annex VI	Annex VI + self classification for carcinogenicity
Pd	0.500	20.000	100.00	Pd compounds (e.g. [Pd(NH3)4](OH)2)	self classification EPMF
Pt	0.800	20.000	100.00	Pt compounds with the exception of Pt compounds specified iin Annex VI	self classification EPMF
Re	0.000	0.000	100.00	Re compounds	not classified
Rh	0.500	20.000	100.00	Rh compounds	self classification
Ru	0.100	20.000	100.00	Ru compounds	self classification
S	26.000	0.000	100.00	H2SO4	Annex VI
Sb	0.100	10.000	100.00	Sb2O3	Annex VI
Se	3.000	35.000	100.00	Selenium compounds except cadmium sulphoselenide	Annex VI
Si	4.000	5.000	100.00	SiO2 non-crystalline	not classified
Sn	0.100	10.000	100.00	Sn compounds	self classification
Ta	0.000	0.000	100.00	Ta/Ta compounds	self classification
Te	7.000	35.000	100.00	Te compounds (self classification)	self classification
Ti	4.000	0.000	100.00	Ti (other not classified compounds, TiO2)	not classified
Tl	0.000	0.000	100.00	thallium compounds, with the exception of those specified elsewhere in Annex VI	Annex VI
V	0.000	0.000	100.00	V	not classified
W	0.000	0.000	100.00	W	not classified
Zn	0.300	10.000	100.00	ZnO	Annex VI
Zr	5.000	0.000	100.00	Zr/Zr compounds	not classified
	98.100				

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
H2SO4	79.5260252611882200							Cat. 1A	
Mg/Mg compounds	0.5000								
ZnO	0.3734123585194249600								
Cl / Cl compounds	3.00								
Selenium compounds except cadmium sulphoselenide	3.00	Cat. 3; H301	0.03			Cat. 3; H331	6		
Sb2O3	0.1197096747700394400								
lead compounds with the exception of those specified elsewhere in Annex VI	7.00	Cat. 4; H302	0.014			Cat. 4; H332	4.66666666667		
MnO2	0.1582438385088645500	Cat. 4; H302	0.000316487677018			Cat. 4; H332	0.105495892339		
Fe/Fe compounds (e.g. FeS2)	8.00								
Copper oxychloride	8.4020237308406500	Cat. 4; H302	0.0168040474617			Cat. 4; H332	5.60134915389		
CoCl2	0.5000	Cat. 4; H302	0.001						
CdCl2	0.3261560359398630400	Cat. 3; H301	0.0032615603594			Cat. 2; H330	6.5231207188		
Bi	0.1000								
Na (other not classified compounds/species)	0.5000								
Zr/Zr compounds	5.00								
K/K compounds	0.5000								
Ir/Ir compounds	0.1000								
inorganic C and C compounds	0.8000								
NiCl2	4.41617910142606500	Cat. 3; H301	0.0441617910143			Cat. 3; H331	8.83235820285	Cat. 2	
Ce compounds	0.5000								
BaO2	1.233005891048373500	Cat. 4; H302	0.0024660117821			Cat. 4; H332	0.822003927366		
As2O3 / AsO3	6.8656282533835200	Cat. 2; H300	1.37312565068					Cat. 1B	
Al massive/Al compounds	3.00								
CaO	4.197649583312540500							Cat. 2	Cat. 1
P/PO4	0.2000								
Ti (other not classified compounds, TiO2)	4.00								
Ru compounds	0.1000								
Sn compounds	0.1000								
Te compounds (self classification)	7.00	Cat. 3; H301	0.07						
Au compounds	0.3000								
Rh compounds	0.5000								
Ag compounds (e.g. AgCl, AgI, AgBr)	5.00								
Pt compounds with the exception of Pt compounds specified iin Annex VI	0.8000								
Pd compounds (e.g. [Pd(NH3)4](OH)2)	0.5000	Cat. 4; H302	0.001						Cat. 2
Cr2O3	0.2923117162858681200								
SiO2 non-crystalline	8.55714590899380600								

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
H2SO4	79.5260252611882200									0.795260252612	0.795260252612
Mg/Mg compounds	0.5000									0.005	0.005
ZnO	0.3734123585194249600								Acute Chronic Cat. 1	0.00373412358519	0.00373412358519
Cl / Cl compounds	3.00									0.03	0.03
Selenium compounds except cadmium sulphoselenide	3.00						STOT RE Cat. 2		Acute Chronic Cat. 1	0.3	0.03
Sb2O3	0.1197096747700394400			Cat. 2						0.0011970967477	0.0011970967477
lead compounds with the exception of those specified elsewhere in Annex VI	7.00			Cat. 2	Cat. 1A		STOT RE Cat. 1***		Acute Chronic Cat. 1	0.7	0.07
MnO2	0.1582438385088645500						STOT RE Cat. 2			0.00158243838509	0.00158243838509
Fe/Fe compounds (e.g. FeS2)	8.00									0.08	0.08
Copper oxychloride	8.4020237308406500								Acute Chronic Cat. 1	0.840202373084	0.0840202373084
CoCl2	0.5000	Resp./Skin Sens. Cat. 1	Muta. Cat. 2	Cat. 1B	Cat. 1B				Acute Chronic Cat. 1	0.05	0.05
CdCl2	0.3261560359398630400		Muta. Cat. 1B	Cat. 1B	Cat. 1B		STOT RE Cat. 1***		Acute Chronic Cat. 1	0.032615603594	0.032615603594
Bi	0.1000									0.001	0.001
Na (other not classified compounds/species)	0.5000									0.005	0.005
Zr/Zr compounds	5.00									0.05	0.05
K/K compounds	0.5000									0.005	0.005
Ir/Ir compounds	0.1000									0.001	0.001
inorganic C and C compounds	0.8000									0.008	0.008
NiCl2	4.41617910142606500	Resp./Skin Sens. Cat. 1	Muta. Cat. 2	Cat. 1A			STOT RE Cat. 1***		Acute Chronic Cat. 1	0.0441617910143	0.0441617910143
Ce compounds	0.5000								Chronic Cat. 4	0.005	0.005
BaO2	1.233005891048373500								Chronic Cat. 4	0.0123300589105	0.0123300589105
As2O3 / AsO3	6.8656282533835200			Cat. 1A					Acute Chronic Cat. 1	0.0686562825338	0.0686562825338
Al massive/Al compounds	3.00									0.03	0.03
CaO	4.197649583312540500					STOT SE Cat. 3				0.0419764958331	0.0419764958331
P/PO4	0.2000									0.002	0.002
Ti (other not classified compounds, TiO2)	4.00									0.04	0.04
Ru compounds	0.1000								Acute Chronic Cat. 1	0.001	0.001
Sn compounds	0.1000									0.001	0.001
Te compounds (self classification)	7.00									0.07	0.07
Au compounds	0.3000									0.003	0.003
Rh compounds	0.5000								Acute Chronic Cat. 1	0.005	0.005
Ag compounds (e.g. AgCl, AgI, AgBr)	5.00								Acute Chronic Cat. 1	50	5
Pt compounds with the exception of Pt compounds specified iin Annex VI	0.8000								Acute Chronic Cat. 1	0.08	0.08

Pd compounds (e.g. [Pd(NH3)4](OH)2)	0.5000	Skin Sens. Cat. 1							Acute Chronic Cat. 1	0.05	0.05
Cr2O3	0.29231171628586812 00								Chronic Cat. 4	0.00292311716286	0.00292311716286
SiO2 non-crystalline	8.55714590899380600									0.0855714590899	0.0855714590899

CLP



Signal word: Danger

Endpoint	Classification	Major driver
Acute toxicity-oral	Cat. 3; H301	Selenium compounds except cadmium sulphoselenide,lead compounds with the exception of those specified elsewhere in Annex VI,MnO2,Copper oxychloride,CoCl2,CdCl2,NiCl2,BaO2,As2O3 / AsO3,Te compounds (self classification),Pd compounds (e.g. [Pd(NH3)4](OH)2)
Acute toxicity-dermal	Not classified	/
Acute toxicity-inhalation	Cat. 4; H332	Selenium compounds except cadmium sulphoselenide,lead compounds with the exception of those specified elsewhere in Annex VI,MnO2,Copper oxychloride,CdCl2,NiCl2,BaO2
Skin corrosion/irritation	Cat. 1A; H314	H2SO4
Serious eye damage/eye irritation	Cat. 1; H318	CaO,H2SO4,As2O3 / AsO3
Respiratory or skin sensitisation	Resp./Skin Sens. Cat. 1; H334/H317	NiCl2
Germ cell mutagenicity	Cat. 1B; H340	CdCl2
Carcinogenicity	Cat. 1A; H350	As2O3 / AsO3
Reproductive toxicity	Cat. 1A; H360	lead compounds with the exception of those specified elsewhere in Annex VI
Specific target organ toxicity - single exposure	Not classified	/
Specific target organ toxicity - repeated exposure	Cat. 1; H372	lead compounds with the exception of those specified elsewhere in this Annex
Aspiration hazard	Not classified	/
Hazardous to aquatic environment - ACUTE	Acute Cat. 1; H400	Selenium compounds except cadmium sulphoselenide,lead compounds with the exception of those specified elsewhere in Annex VI,Copper oxychloride,CoCl2,CdCl2,NiCl2,As2O3 / AsO3,Ag compounds (e.g. AgCl, AgI, AgBr),Pt compounds with the exception of Pt compounds specified iin Annex VI,Pd compounds (e.g. [Pd(NH3)4](OH)2)
Hazardous to aquatic environment - CHRONIC	Chronic Cat. 1; H410	Selenium compounds except cadmium sulphoselenide,lead compounds with the exception of those specified elsewhere in Annex VI,Copper oxychloride,CoCl2,CdCl2,NiCl2,As2O3 / AsO3,Ag compounds (e.g. AgCl, AgI, AgBr),Pt compounds with the exception of Pt compounds specified iin Annex VI,Pd compounds (e.g. [Pd(NH3)4](OH)2)

GHS (without EU SCL)



Signal word: Danger

Endpoint	Classification	Major driver
Acute toxicity-oral	Cat. 3; H301	Selenium compounds except cadmium sulphoselenide,lead compounds with the exception of those specified elsewhere in Annex VI,MnO2,Copper oxychloride,CoCl2,CdCl2,NiCl2,BaO2,As2O3 / AsO3,Te compounds (self classification),Pd compounds (e.g. [Pd(NH3)4](OH)2)
Acute toxicity-dermal	Not classified	/
Acute toxicity-inhalation	Cat. 4; H332	Selenium compounds except cadmium sulphoselenide,lead compounds with the exception of those specified elsewhere in Annex VI,MnO2,Copper oxychloride,CdCl2,NiCl2,BaO2
Skin corrosion/irritation	Cat. 1A; H314	H2SO4
Serious eye damage/eye irritation	Cat. 1; H318	CaO,H2SO4,As2O3 / AsO3
Respiratory or skin sensitisation	Resp./Skin Sens. Cat. 1; H334/H317	NiCl2
Germ cell mutagenicity	Cat. 1B; H340	CdCl2
Carcinogenicity	Cat. 1A; H350	As2O3 / AsO3
Reproductive toxicity	Cat. 1A; H360	lead compounds with the exception of those specified elsewhere in Annex VI
Specific target organ toxicity - single exposure	Not classified	/
Specific target organ toxicity - repeated exposure	Cat. 2; H373	/
Aspiration hazard	Not classified	/
Hazardous to aquatic environment - ACUTE	Acute Cat. 1; H400	Selenium compounds except cadmium sulphoselenide,lead compounds with the exception of those specified elsewhere in Annex VI,Copper oxychloride,CoCl2,CdCl2,NiCl2,As2O3 / AsO3,Ag compounds (e.g. AgCl, AgI, AgBr),Pt compounds with the exception of Pt compounds specified iin Annex VI,Pd compounds (e.g. [Pd(NH3)4](OH)2)
Hazardous to aquatic environment - CHRONIC	Chronic Cat. 1; H410	Selenium compounds except cadmium sulphoselenide,lead compounds with the exception of those specified elsewhere in Annex VI,Copper oxychloride,CoCl2,CdCl2,NiCl2,As2O3 / AsO3,Ag compounds (e.g. AgCl, AgI, AgBr),Pt compounds with the exception of Pt compounds specified iin Annex VI,Pd compounds (e.g. [Pd(NH3)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.