

# Composition output: PM: Slimes and sludges (4) version 'G4 Slimes & sludges - Cluster 1 - 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.](#)



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## Input values:

Element	Conc.% (user input)	Conc.% (ref sample)	Distr.% (ref sample)	Species / Class. entry	Source
Ag	2.500	66.000	100.00	Ag compounds (e.g. AgCl, AgI, AgBr)	self classification EPMF
Al	0.000	20.000	100.00	Al massive/Al compounds	not classified
As	0.000	10.000	100.00	As <sub>2</sub> O <sub>3</sub> / AsO <sub>3</sub>	Annex VI
Au	95.000	81.000	100.00	Au compounds	not classified
B	0.000	0.000	100.00	Na <sub>2</sub> B <sub>4</sub> O <sub>7</sub>	1st ATP + self classification (eye irritation)
Ba	0.000	40.000	100.00	BaO <sub>2</sub>	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	0.000	15.000	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	10.000	100.00	CdCl <sub>2</sub>	Annex VI
Ce	0.000	0.000	100.00	Ce compounds	self classification
Cl	0.000	25.000	100.00	Cl / Cl compounds	not classified
Co	0.000	40.000	100.00	CoCl <sub>2</sub>	1st ATP
Cr	0.000	20.000	100.00	Cr <sub>2</sub> O <sub>3</sub>	self classification
Cu	0.000	45.000	100.00	Copper oxychloride	self classification
F	0.000	0.000	100.00	F	not classified

Fe	0.000	45.000	100.00	Fe/Fe compounds (e.g. FeS <sub>2</sub> )	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	0.000	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	LaCl <sub>3</sub>	self classification (ECHA dissemination website)
Li	0.000	0.000	100.00	Li	Annex VI
Mg	0.000	0.000	100.00	Mg/Mg compounds	not classified
Mn	0.000	0.000	100.00	MnO <sub>2</sub>	Annex VI
Mo	0.000	0.000	100.00	MoO <sub>3</sub>	1st ATP
N	0.000	15.000	100.00	NH <sub>3</sub>	Annex VI
Na	0.000	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	0.000	20.000	100.00	NiCl <sub>2</sub>	
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 <sub>4</sub>	not classified
Pb	0.000	35.000	100.00	lead compounds with the exception of those specified elsewhere in Annex VI	Annex VI + self classification for carcinogenicity
Pd	0.000	20.000	100.00	Pd compounds (e.g. [Pd(NH <sub>3</sub> ) <sub>4</sub> ](OH) <sub>2</sub> )	self classification EPMF
Pt	1.000	20.000	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 compounds	not classified
Rh	0.000	20.000	100.00	Rh compounds	self classification
Ru	0.000	20.000	100.00	Ru compounds	self classification
S	0.000	0.000	100.00	H <sub>2</sub> SO <sub>4</sub>	Annex VI
Sb	0.000	10.000	100.00	Sb <sub>2</sub> O <sub>3</sub>	Annex VI
Se	0.000	35.000	100.00	Selenium compounds except cadmium sulphoselenide	Annex VI
Si	0.000	5.000	100.00	SiO <sub>2</sub> non-crystalline	not classified
Sn	0.000	10.000	100.00	Sn compounds	self classification
Ta	0.000	0.000	100.00	Ta/Ta compounds	self classification
Te	0.000	35.000	100.00	Te compounds (self classification)	self classification
Ti	0.000	0.000	100.00	Ti (other not classified compounds, TiO <sub>2</sub> )	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	0.000	10.000	100.00	ZnO	Annex VI
Zr	0.000	0.000	100.00	Zr/Zr compounds	not classified

**98.500**

## 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
Au compounds	95.00								
Ag compounds (e.g. AgCl, AgI, AgBr)	2.500								
Pt compounds with the exception of Pt compounds specified in Annex VI	1.00								

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
Au compounds	95.00									0.95	0.95
Ag compounds (e.g. AgCl, AgI, AgBr)	2.500								Acute Chronic Cat. 1	25	2.5
Pt compounds with the exception of Pt compounds specified in Annex VI	1.00								Acute Chronic Cat. 1	0.1	0.1

## CLP



### Signal word: Warning

Endpoint	Classification	Major driver
Acute toxicity-oral	Not classified	/
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	Not classified	/
Germ cell mutagenicity	Not classified	/
Carcinogenicity	Not classified	/
Reproductive toxicity	Not classified	/
Specific target organ toxicity - single exposure	Not classified	/

Specific target organ toxicity - repeated exposure	Not classified	/
Aspiration hazard	Not classified	/
Hazardous to aquatic environment - ACUTE	Acute Cat. 1; H400	Ag compounds (e.g. AgCl, AgI, AgBr),Pt compounds with the exception of Pt compounds specified iin Annex VI
Hazardous to aquatic environment - CHRONIC	Chronic Cat. 1; H410	Ag compounds (e.g. AgCl, AgI, AgBr),Pt compounds with the exception of Pt compounds specified iin Annex VI

## GHS (without EU SCL)



### Signal word: Warning

Endpoint	Classification	Major driver
Acute toxicity-oral		/
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	Not classified	/
Germ cell mutagenicity	Not classified	/
Carcinogenicity	Not classified	/
Reproductive toxicity	Not classified	/
Specific target organ toxicity - single exposure	Not classified	/
Specific target organ toxicity - repeated exposure	Not classified	/
Aspiration hazard	Not classified	/
Hazardous to aquatic environment - ACUTE	Acute Cat. 1; H400	Ag compounds (e.g. AgCl, AgI, AgBr),Pt compounds with the exception of Pt compounds specified iin Annex VI
Hazardous to aquatic environment - CHRONIC	Chronic Cat. 1; H410	Ag compounds (e.g. AgCl, AgI, AgBr),Pt compounds with the exception of Pt compounds specified iin Annex VI

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.