



ID Card

GROUP 6.1

Electrolyte from silver electrolysis

Version 26 November 2012

Please note that discussions on the ID Cards are currently ongoing.
Should you need further information / detail, please contact info@epmf.be
The content of this ID Card may be adjusted as the Refinables Project develops.

DISCLAIMER

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1. Identification of the group

Table 1. Identification of the group

	Proposed by EPMF Refiners Work Group	Pre-registered as	
Name	Electrolyte, silver electrolysis	Slimes and Sludges, precious metal refining	Reaction mass of silver nitrate, copper dinitrate (and nitric acid)
EC number	911-538-9	308-516-0	231-853-9 221-838-5 (231-714-2)
CAS number		98072-61-8	7761-88-8 3251-23-8 (7697-37-2)
Description	Fresh or spent aqueous silver nitrate solution used in and resulting from the electrolytic refining of silver. This electrolyte is constituted of silver nitrate, copper dinitrate, nitric acid, and it may contain some other metallic and non-metallic ions in varying concentrations, which will vary depending on the nature and composition of the primary or secondary raw material from which silver is recovered.	None	None

N.B.: The description proposed above will be further detailed by EPMF for Registration purposes.



2. Synonyms (and/or commercial names)

- Reaction mass of copper dinitrate (221-838-5; 3251-23-8) and silver nitrate (231-853-9; 7761-88-8), and nitric acid (231-714-2; 7697-37-2); multi-constituent substance
- Silver electrolyte
- Impure silver nitrate

3. Substances that are similar or can be considered as the same

None

4. Usual composition

Table 2. Usual composition

Type	Name of the element	Symbol	Species present (one line per species)	Usual concentration ranges (%)
Precious metals	Silver	Ag	AgNO ₃	7,5-21
	Palladium	Pd		0-3
	Platinum	Pt		0-0,2
Other metals	Cadmium	Cd		0-0,5
	Copper	Cu	Cu(NO ₃) ₂	0-30
	Lead	Pb	Pb(NO ₃) ₂	0-2
	Tin	Sn		0-1
	Zinc	Zn		0-5
Other constituents	Nitrogen	N	HNO ₃	0,02-0,7
	Water	H ₂ O	Water	0-76

N.B.: Classification drivers are indicated in red (see also Table 4).

The composition given above represents the usual compound content available to the Members of the EPMF by 9 February 2012. This usual content represents the majority of the Silver Electrolyte that is manufactured and/or imported on the EEA market.

In a UVCB substance, the number of constituents is relatively large and/or; the composition is, to a significant part, unknown and/or; the variability of composition is relatively large or poorly predictable. Hence, concentration ranges outside the ones given above do not exclude sameness and are usually referred to as unusual or exceptional situations. Each potential registrant is responsible for performing its own elemental analysis (EPMF will specify preferred method in due course).

5. Lead Registrant

KGHM Polska Miedz S.A. (Poland) volunteers to be the Lead Registrant for this intermediate. The European Precious Metals Federation (EPMF) will provide support to the Lead Registrant as laid down in the EPMF Agreement.



REACH Strategy

Table 3. REACH strategy for the group (basis for REACH Registration preparation)

Subject	Description	Comment
SIEF	New/sub-SIEF	A new EC number has been generated for this material during pre-registration as multi-constituent substance (911-538-9). Although following identification and sameness discussions this material was agreed to be a UVCB (see below) the new EC number allocated to the multi-constituent substance will be used for the registration dossier submission.
REACH category	UVCB	Can contain more than 80% of silver nitrate (EC n°: 231-853-9; CAS n°: 7761-88-8) and be considered as "impure" silver nitrate (cf. EPMF proposed strategy for impure compounds).
Intermediate status	On-site	Although the composition provided in Table 2 above includes the water content, the tonnage band should be calculated excluding the water content.
Tonnage band	> 1000	No Member of the EPMF has declared this material to be transported. At least one Member of the PM has declared this material on-site > 1000 t/a. This will be considered as the reference to produce the Dossier.
Information requirements	Available	This is completed by testing and a scientifically sound and robust classification technique. Several classifications may be proposed on the basis of e.g.: different impurity profiles.
Existing classification	See Table 4	
Registration deadline	2010	

Classifications for Electrolyte from silver electrolysis are proposed in below table as grouped classifications based on composition profile. Compositions or triggers associated to each classification provide a non-exhaustive list of those constituents which can be present in the Refinable.

Table 4. Classification for the group

	Classification CLP	Classification DSD	Composition / classification drivers
1	Repro. 1A, STOT Rep 2, ENV Ac 1, ENV Ch 1, Skin corr. 1B, Eye dam. 1	C; R34 Xi; R36, R37, R38 Repr. Cat. 1; R60/61 R50-53 Xn; R48/20/22	Pb 0,5 – 1%; HNO ₃ < 20%; H ₂ SO ₄ < 15%; AgNO ₃ % >= 5% 100 / ((ZnSO ₄ % + Pb% + CuSO ₄ %) / 500) > 2000 mg/kg (%AgNO ₃ x1000 + %Pd compoundsx10 + %CuSO ₄ x10 + %Pt compoundsx10 + %Pb compoundsx10 + %ZnSO ₄) >= 25%
2	Ac Tox oral 4, ENV Ac 1, ENV Ch1, Skin corr. 1B, Eye dam. 1	Xn; R20/22 C; R34 Xi, R41 R50-53	Pb < 0,3 %; HNO ₃ < 20%; H ₂ SO ₄ < 15%; AgNO ₃ % >= 5% 100 / ((ZnSO ₄ % + Pb% + CuSO ₄ %) / 500) between 300 and 2000 mg/kg (%AgNO ₃ x1000 + %Pd compoundsx10 + %CuSO ₄ x10 + %Pt compoundsx10 + %Pb compoundsx10 + %ZnSO ₄) >= 25% *



N.B.1: Classification drivers are (worst-case) assumptions and do not necessarily represent real species/mineralogical composition

N.B.2: Classification group 1 has a CMR profile