



# ID Card

## Dihydrogen hexahydroxyplatinate, compound with 2-aminoethanol (1:2) (in solution)

Version 17 July 2023

### Notes:

- This ID card is used to support the substance sameness discussions in SIEFs and to describe the substance to the best of the SIEF members' knowledge.
- It also aims at grouping communications relevant to the request of available data or information, the approval of the proposed Lead Registrant and the registration strategy with the SIEF.
- It is the responsibility of each individual registrant to identify their substance and to report company-specific identity in their Registration Dossier (section 1 of IUCLID).

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## 1. Identification of the substance

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	Original (in EC inventory)
<b>Name</b>	Dihydrogen hexahydroxyplatinate, compound with 2-aminoethanol (1:2)
<b>EC number</b>	268-717-3
<b>CAS number</b>	68133-90-4
<b>Description</b>	Not available
<b>Composition type</b>	Mono-constituent substance

## 2. Synonyms and other identifiers of the substance

Table 2. Synonyms and other identifiers of the substance

<b>IUPAC name</b>	2-aminoethanol; hydron; platinum(4+); hexahydroxide
<b>CAS name</b>	
<b>Abbreviations</b>	
<b>Other commercial, brand or international names</b>	2-aminoethanol; hexahydroxyplatinum
<b>Other identity codes</b>	

## 3. Substances (with core identifiers) also falling under this substance (with justification)

None

## 4. Information related to molecular and structural formula of the substance

Table 3. Information related to molecular and structural formula of the substance

<b>Molecular formula</b>	C <sub>4</sub> H <sub>22</sub> N <sub>2</sub> O <sub>8</sub> Pt
<b>Structural formula</b>	[H <sub>2</sub> Pt <sup>(IV)</sup> (OH) <sub>6</sub> ] * [NH <sub>2</sub> -CH <sub>2</sub> -CH <sub>2</sub> -OH] <sub>2</sub>
<b>Smiles notation</b>	[H+].[H+].C(CO)N.C(CO)N.[OH-].[OH-].[OH-].[OH-].[OH-].[OH-].[Pt+4]
<b>Optical activity</b>	
<b>Typical ratio of (stereo) isomers</b>	
<b>Molecular Weight / Molecular Weight range</b>	421,31 g/mol

## 5. Typical composition of the substance

Table 4. Typical composition

	<b>Name</b>	<b>Symbol / Formula</b>	<b>Min &amp; Max concentrations (%)<sup>s</sup></b>	<b>Typical concentration (%)<sup>ss</sup></b>
<b>Main constituent(s)*</b>	Dihydrogen hexahydroxyplatinate, compound with 2-aminoethanol (1:2)	C <sub>4</sub> H <sub>22</sub> N <sub>2</sub> O <sub>8</sub> Pt	95 - 99 <sup>s</sup>	97
<b>Additives**</b>	2-aminoethanol	C <sub>2</sub> H <sub>7</sub> NO	1 - 5	3
<b>Impurity(ies)<sup>#</sup></b>	Several minor (especially metallic) impurities which do not affect the classification of the substance because of their non-hazardous nature	e.g. Ag, Au, Cu, Ir, Pb, Pd, Rh, Ru, Na	0 – 0,5	< 0,1

	or because they do not exceed the classification cut-off limits in the substance			
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\*  $\geq 80\%$  (w/w) for mono-constituent substances;  $\geq 10\%$  (w/w) and  $< 80\%$  (w/w) for multi-constituent substances.

\*\*  $\geq 1\%$  (or lower if contributing to the hazard). An additive is a substance that has been intentionally added to stabilise the substance and which cannot be removed without changing the chemical nature to which it is added.

# An impurity is an unintended constituent present in a substance, as produced. It may originate from the starting materials or be the result of secondary or incomplete reactions during the production process. While impurities are present in the final substance, they were not intentionally added.

§ Concentration ranges define the substance sameness criteria agreed by all EPMF Members in preparation of the communication with other SIEF members.

§§ Typical concentration refers to the representative sample used for testing.

§ Corresponds to 44-46 % Pt.

The composition given above is the theoretical composition of a pure solution of Dihydrogen hexahydroxyplatinate, compound with 2-aminoethanol (1:2). In practice, Dihydrogen hexahydroxyplatinate, compound with 2-aminoethanol (1:2) is brought on the market in an aqueous solution containing 20-50 % Dihydrogen hexahydroxyplatinate, compound with 2-aminoethanol (1:2).

2-aminoethanol is intentionally added to preserve the substance's stability (it keeps the pH high to prevent the decomposition of the substance).

## 6. Information on appearance, physical state and properties of the substance

**Table 5. Appearance / physical state / properties of the substance in solution\***

<b>Physical state</b>	Solution
<b>Solvent</b>	water
<b>Concentration range of substance in solution</b>	20–50 % <sup>§</sup>
<b>pH (range) of the solution</b>	> 9,5
<b>Excess acid</b>	Not applicable

\* For liquid substances (solvent cannot be separated from substance without changing the identity of the substance) and not for mixtures, suspensions, and other non-substance forms in which the substance is manufactured and/or imported under REACH.

§ Corresponds to 9-23 % Pt.

## 7. Analytical data

Annex VI of REACH requires the registrant to describe the analytical methods and/or to provide the bibliographical references for the methods used for identification of the substance and, where appropriate, for the identification of impurities and additives. This information should be sufficient to allow the methods to be reproduced.

**Table 6. Analytical methods for identification of the substance**

Parameter / Method	Recommended for substance identification and sameness check	Applicable	Not applicable or not recommended
<b>Elemental analysis</b>			
ICP (ICP-MS or ICP-OES)	X		
Atomic absorption spectroscopy (AAS)			
Glow discharge mass spectrometry (GDMS)			
<b>Molecular analysis</b>			
Infrared (IR) spectroscopy			
Raman spectroscopy	X		
<b>Mineralogical analysis</b>			
X-Ray Fluorescence (XRF)		X	
X-Ray Diffraction (XRD)	X		
<b>Morphology and particle sizing</b>			
Electron microscopy (SEM, TEM, REM)* #			
Laser diffraction* #			
Particle size by other means (e.g. sieve analysis)#			
Surface area by N-BET* #			
<b>Other</b>			

\* Analytical techniques particularly (but not exclusively) relevant for nanomaterials.

# The choice of the technique for particle size depends on the size of the material as manufactured/imported/placed on the market/used.

## 8. Lead Registrant

Umicore (Belgium) volunteers to be the Lead Registrant for Dihydrogen hexahydroxyplatinate, compound with 2-aminoethanol (1:2). The EPMF will provide support to the Lead Registrant as laid down in the EPMF Agreement.

## 9. Scope of the Registration Dossier

The uses included in this Registration Dossier are listed on the [EPMF website](#).

## 10. Analytical reference information

Below the results of Raman analysis of a reference sample used for testing.

Apparatus: Raman WITec Alpha 300R

Nd:YAG Laser Compass 315-50 (532 nm)

Sample preparation: For measurement the neat test item (stored in a glass vial) was positioned in a holder of the macro sampling set.

After maximizing the signal intensity of the test item's Raman bands, a Raman spectrum was recorded.

Test parameters: Spectral range: 98.86 cm<sup>-1</sup> - 3649.78 rel. cm<sup>-1</sup>;

Resolution: < 6 cm<sup>-1</sup> (not linear)

Excitation wavelength: 532.260 nm

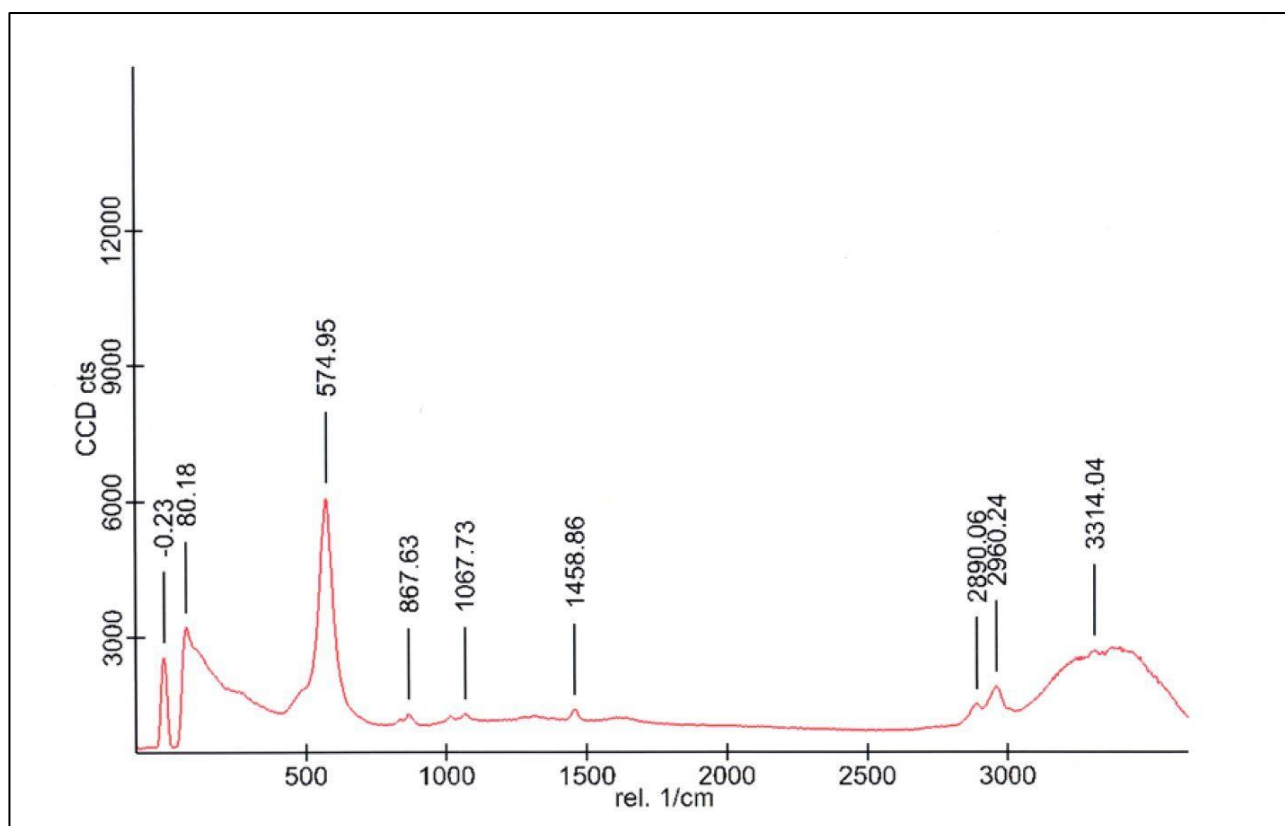
Grating: T1: 600grids/mm BLZ=500 nm;

No. of accumulations: 60

Integration time: 1.00002s;

Lens: Renishaw Macro Sampling Set, (90° adaptor, lens f = 30mm NA = 0.17)

Measurement at room temperature.



**Figure 1. Raman spectrum of Dihydrogen hexahydroxyplatinate, compound with 2-aminoethanol (1:2)**