ID Card
Rhodium(III) acetate

Version 14 January 2021

Notes:

- *This ID card is used to support the substance sameness discussions and to describe the substance to the best of the 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.*
- *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).*

DISCLAIMER
All data and information contained in this document shall be treated by the receiving party (i) in full confidence with the adequate respect of any confidential and/or proprietary nature of such information and (ii) only in the framework of the purpose of agreeing on substance sameness, Lead Registrant and overall REACH Strategy for the concerned Substance under REACH (the 'Purpose').
The receiving party (and any representative) shall not be allowed to use or circulate any or all parts of this document for any other purpose than the Purpose, without the prior written consent of the European Precious Metals Federation (EPMF).
The content provided in this document is given for the Purpose and as such, no guarantee or warranty whatsoever (expressed or implied) is given as to its accuracy, completeness, merchantability or fitness for any particular purpose which the receiving party may have. In any case, any use by the receiving party would be made at its sole risk and liability.

1. Identification of the substance

Table 1. Identification of the substance

	Proposed by EPMF	Original (in EC inventory)
Name	Rhodium(III) acetate	Rhodium(III) acetate
EC number	255-707-9	255-707-9
CAS number	42204-14-8	42204-14-8
Description	*Rhodium(III) acetate is produced from rhodium hydroxide hydrate which is precipitated by addition of sodium hydroxide to rhodium chloride solution. Rhodium hydroxide hydrate is dissolved in acetic acid to form rhodium acetate solution. The solution is then adjusted to the appropriate concentration or evaporated to dryness to form solid rhodium acetate.* *The resulting product contains monomer, bridged and oligomeric Rh (III) aquo and acetato complex species, acetate and hydroxo anions and additional water.* *Due to the variable ratios of undefined bridged and oligomeric Rh (III) species and rhodium (III) mixed aquo-acetato complexes, the proportions and nature of which will vary depending on the production and storage conditions, this substance has been declared as a UVCB*	Not available
Composition type	UVCB	

2. Synonyms and other identifiers of the substance

Table 2. Synonyms and other identifiers of the substance

IUPAC name	Rhodium(3+);triacetate
CAS name	Acetic acid, rhodium salt
Abbreviations	
Other commercial, brand or international names	Rhodium acetate Acetic acid, rhodium(3+) salt Rhodium(3+) triacetate Rhodium(3+) acetate
Other identity codes	

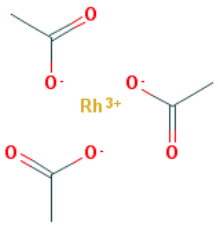
3. Substances (with core identifiers) also falling under this substance (with justification)

Table 3. Substances also falling under this substance

Name	EC number	CAS number	Justification
Rhodium(3+) acetate	247-460-0	26105-49-7	Acetic acid, rhodium(3+) salt (3:1)

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

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

Molecular formula	C6H9O6Rh
Structural formula	
Smiles notation	CC(=O)[O-].CC(=O)[O-].CC(=O)[O-].[Rh+3]
Optical activity	Not applicable
Typical ratio of (stereo) isomers	Not applicable
Molecular Weight / Molecular Weight range	280,04 g/mol (anhydrous basis)

5. Usual composition of the substance

The composition given below represents the usual composition available to the Members of the EPMF by the date given above on the document. This usual content represents the majority of the Rhodium(III) acetate that is placed 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 below do not exclude sameness and are usually referred to as unusual or exceptional situations. Each potential registrant is responsible for performing its own analysis.

European Precious Metals Federation aisbl
E: info@epmf.be W: www.epmf.be

Table 5. Usual Constituents

Name	Symbol / Formula	Min & Max concentrations (%)§	Typical concentration (%)§§
Rhodium(III) acetate (including aquo, hydroxo, and acetato complexes with acetate and hydroxo anions)	$C_6H_9O_6Rh.xH_2O$	84 -100	>= 91
Rhodium(III) hydroxide hydrate, CAS 120824-04-6	$Rh(OH)_3.xH2O$	0 - 16	<= 9
Alkali salts	K, Na	0 - 0,5	< 0,1
Chloride	Cl-	0 – 0,2	< 0,2
Several minor (especially metallic) constituents which do not affect the classification of the substance because of their non-hazardous nature or because they do not exceed the classification cut-off limits in the substance	e.g. Ag, Au, Cu, Ir, Pd, Pt, Ru	0 – 1	< 0,5

§ 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 34 – 36,8 % Rh.

The composition given above is typical and should therefore represent the majority of Rhodium(III) acetate as manufactured and/or imported in the EEA market. Rhodium(III) acetate containing less than 84 % Rhodium(III) acetate may still be considered to be the same for the purpose of registration under REACH and may be referred to as impure Rhodium(III) acetate to distinguish if from the typically pure Rhodium(III) acetate.

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

Table 6. Appearance / physical state / properties of the solid substance

Physical state	Solid
Physical form*	Amorphous
Appearance	Brown powder
Particle size**	Fine to coarse powder
Does the solid hydrolyse?#	Yes
Is the solid hygroscopic?§	Yes

***** Crystalline form: solid material whose constituent atoms, molecules, or ions are arranged in an ordered pattern extending in all three spatial dimensions. Amorphous form: solid material whose constituent atoms, molecules, or ions are randomly arranged.
** Nanoform: particles in the size range 1 - 100 nm (for full definition of a nanomaterial, see http://ec.europa.eu/environment/chemicals/nanotech/index.htm#definition). Fine powder: particles in the size range 100 – 2.500 nm. Coarse powder: particles in the size range 2.500 nm – 1 mm. Massive object: particles in the size range > 1 mm.
# Hydrolysis: decomposition (cleavage of chemical bonds) by the addition of water.
§ Hygroscopic substance: readily attracts moisture from its surroundings in open air, through either absorption or adsorption. Cf. also water/moisture content in Table 5.

Table 7. Appearance / physical state / properties of the substance in solution

Physical state	Solution
Solvent	Water / Acetic Acid

European Precious Metals Federation aisbl
E: info@epmf.be W: www.epmf.be

Concentration range of substance in solution	10 - 20 %
pH (range) of the solution	< 1
Excess acid	35 – 60 % Acetic Acid

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 8. Analytical methods for identification of the substance

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

* 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 AG & Co. KG (Germany) is the Lead Registrant for Rhodium(III) acetate. The EPMF will provide support to the Lead Registrant as laid down in the EPMF Agreement.

European Precious Metals Federation aisbl
E: info@epmf.be W: www.epmf.be

9. REACH Strategy

The table below presents the overall Registration Strategy for Rhodium(III) acetate based on the information available to the EPMF by the date given above on the document.
The Registration Dossier will be prepared for the highest substance status (information requirements associated to a substance or Article 10 Registration being higher than an intermediate handled under strictly controlled conditions or Article 17 or 18 one) and associated tonnage band.
The recap below therefore reflects the scope of work of the EPMF for Rhodium(III) acetate and sets the minimum and maximum set of information that will be gathered and/or produced when preparing the Registration Dossier for Rhodium(III) acetate as described in this ID Card.
If higher information requirements are necessary, these can be included in the Registration dossier (if EPMF is made aware of these additional requirements in-time) as an update to the already submitted dossier.

Table 8. REACH strategy for the substance (basis for REACH Registration preparation)

Item	Description
REACH category	UVCB
Highest status	Substance
Highest tonnage band	1-10 t/a
Information requirements	Available / Existing + Annex VII
Existing classification*	Eye Irrit. 2 (H319) Muta 2 (H341) Aquatic acute 1 (H400) (M factor 1) Aquatic chronic 1 (H410) (M factor 1)
Registration deadline	2018

***** For the pure form, as in the REACH registration dossier

10. Scope of the Registration Dossier

The uses included in this Registration Dossier are listed on the EPMF website.

11. Analytical reference information

Below the results of IR (solid) and Raman (solution) analysis of a reference sample used for testing.

Spectrometer: Infrared spectrometer Tensor 27, BRUKER Optics
Spectral Range:4000 – 500 cm-1
Resolution: 2 cm-1
Scans: 32
Temperature: ambient
Sample preparation: GG-ATR

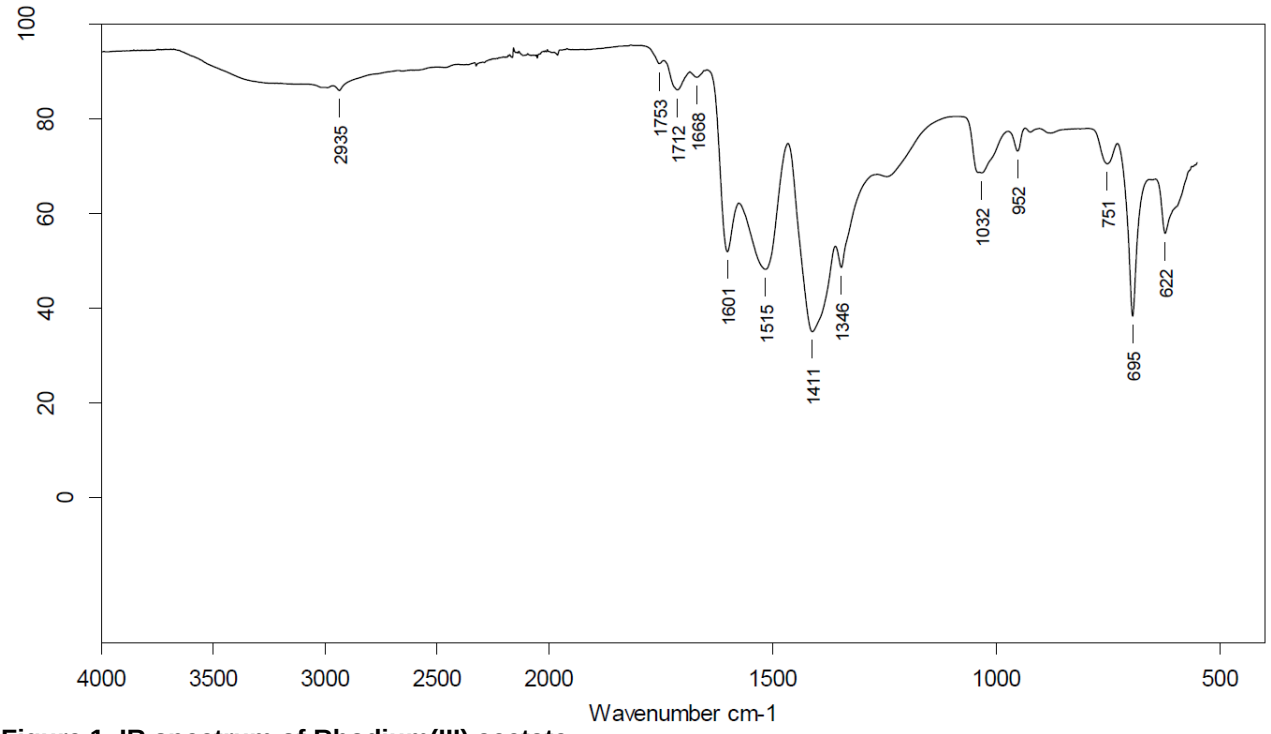


Figure 1. IR spectrum of Rhodium(III) acetate

European Precious Metals Federation aisbl
E: info@epmf.be W: www.epmf.be