9.2. Exposure scenario 2: Use at industrial sites - Use as an intermediate

Sector of use: SU 9: Manufacture of fine chemicals; SU 14: Manufacture of basic metals, including alloys

Environment contributing scenario(s):		
CS 1	Use as an intermediate ES 2.1	ERC 6a
CS 2	Use as an intermediate ES 2.2	ERC 6a
Worker contributing scenario(s):		
CS 3	Handling of solutions or low dusty material and reaction	PROC 3, PROC 15; PROC 26; PROC 4; PROC 5; PROC 8b; PROC 9
CS 4	Fully contained process	PROC 1
CS 5	Wet cleaning	PROC 8a
CS 6	Vacuum cleaning	PROC 26

9.2.1. Env CS 1: Use as an intermediate ES 2.1 (ERC 6a)

Assessment entity group used for the assessment of this contributing scenario: Pt dissolved for ENV RA

9.2.1.1. Conditions of use

Amount used, frequency and duration of use (or from service life)
• Annual use amount at site: <= 30 tonnes/year *64.8 tonnes dihydrogen hexahydroxyplatinate with 2-aminoethanol (1:2) (30 tonnes Pt metal equivalent); 90P from sector data*
• Daily use amount at site: <= 0.091 tonnes/day *Based on 330 days per year (50P from sector data)*
Conditions and measures related to biological sewage treatment plant
• Biological STP: Site specific [Effectiveness Water: 57.1%]
• Discharge rate of STP: >= 3E3 m3/day
• Application of the STP sludge on agricultural soil: No
Conditions and measures related to external treatment of waste (including article waste)
• Particular considerations on the waste treatment operations: No (low amount) *Hazardous wastes from onsite risk management measures and solid or liquid wastes from production, use and cleaning processes should be disposed of separately to hazardous waste incineration plants or hazardous waste landfills as hazardous waste. Releases to the floor, water and soil are to be prevented. If the platinum content of the waste is elevated enough, internal or external recovery/recycling should be considered.* *Fraction of daily/annual use expected in waste: 0%* *Appropriate waste codes: 06 04 05*, 06 05 02*, 10 07 01, 10 07 02, 10 07 03, 10 07 05, 10 08 16, 15 02 02*, 16 01 18, 16 08 01, 16 08 06*, 16 08 07*, 19 08 06*, 20 01 40* *Suitable disposal: Hazardous waste produced during the manufacture and downstream use is sent to a recycler only marginal amounts are sent to a landfill or an incinerator. Waste containing platinum is recycled for almost a 100%* *A detailed assessment has been performed and is reported in the Waste report (ARCHE, 2016)*
Other conditions affecting environmental exposure
• Receiving surface water flow rate: >= 9.3E4 m3/day
• Discharge to: Freshwater only

Fate (release percentage) in the biological sewage treatment plant

The biological STP is site specific and the releases to the various compartments have been set by the assessor

for some assessment entities. They are distributed in the following way:

Assessment entities	Pt dissolved
Release to water	42.9%
Release to air	0%
Release to sludge	57.1%
Release degraded	0%

Explanation for Pt dissolved:
Based on European STP monitoring programme. Stutt E, Wilson I, Merrington G & Rothenbacher K (2016) Determining the Removal of Platinum Group Metals in Industrial Effluent during Sewage Treatment. In: Abstracts Book of the SETAC Europe 26th Annual Meeting – 22-26 May 2016, Nantes, France, Society of Environmental Toxicology and Chemistry

9.2.1.2. Releases

The local releases to the environment are reported in the following table. Note that the releases reported do not account for the removal in the modelled biological STP.

Table 9.22. Local releases to the environment

Release	Assessment entity	Release estimation method	Explanations
Water	Pt dissolved	Estimated release factor	**Release factor before on site RMM:** 1.19E-3% **Release factor after on site RMM:** 1.19E-3% **Local release rate:** 1.08E-3 kg/day **Explanation:** On-site wastewater treatment by chemical precipitation, sedimentation and/or filtration. Efficiency 99 % (sector data) Release factor after on-site treatment: 11.9 g/T (50P from sector data)
Air	Pt dissolved	Estimated release factor	**Release factor before on site RMM:** 3E-3% **Release factor after on site RMM:** 3E-3% **Local release rate:** 2.73E-3 kg/day **Explanation:** Treatment of air emissions by wet scrubbers and filters (e.g. fabric, bag, HEPA). Release factor after on-site treatment: 30 g/T (10% of SpERC RF for 'Manufacture of metal compounds')
Non agricultural soil	Pt dissolved	Estimated release factor	**Release factor after on site RMM:** 0% **Explanation:** No direct emissions to soil.

9.2.1.3. Exposure and risks for the environment and man via the environment

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table. The exposure estimates have been obtained with EUSES 2.1.2 unless stated otherwise.

Table 9.23. Exposure concentrations and risks for the environment and man via the environment

Protection target	Assessment entity	Exposure concentration	Risk quantification
Fresh water	Pt dissolved	**Local PEC:** 4.74E-6 mg/L RCR = 0.034	Final RCR = 0.034
Sediment (freshwater)	Pt dissolved	**Local PEC:** 8.84E-3 mg/kg dw RCR = 0.034	Final RCR = 0.034
Sewage Treatment Plant	Pt dissolved	**Local PEC:** 1.55E-4 mg/L RCR = 6.59E-4	Final RCR < 0.01

Protection target	Assessment entity	Exposure concentration	Risk quantification
Agricultural soil	Pt dissolved	**Local PEC:** 9.53E-4 mg/kg dw RCR = 0.182	Final RCR = 0.182

9.2.2. Env CS 2: Use as an intermediate ES 2.2 (ERC 6a)

Assessment entity group used for the assessment of this contributing scenario: Pt dissolved for ENV RA

9.2.2.1. Conditions of use

Amount used, frequency and duration of use (or from service life)
• Annual use amount at site: <= 30 tonnes/year *64.8 tonnes dihydrogen hexahydroxyplatinate with 2-aminoethanol (1:2) (30 tonnes Pt metal equivalent); 90P from sector data*
• Daily use amount at site: <= 0.091 tonnes/day *Based on 330 days per year (50P from sector data)*
Conditions and measures related to biological sewage treatment plant
• Biological STP: None [Effectiveness Water: 0%]
Conditions and measures related to external treatment of waste (including article waste)
• Particular considerations on the waste treatment operations: No (low amount) *Hazardous wastes from onsite risk management measures and solid or liquid wastes from production, use and cleaning processes should be disposed of separately to hazardous waste incineration plants or hazardous waste landfills as hazardous waste. Releases to the floor, water and soil are to be prevented. If the platinum content of the waste is elevated enough, internal or external recovery/recycling should be considered.* *Fraction of daily/annual use expected in waste: 0%* *Appropriate waste codes: 06 04 05*, 06 05 02*, 10 07 01, 10 07 02, 10 07 03, 10 07 05, 10 08 16, 15 02 02*, 16 01 18, 16 08 01, 16 08 06*, 16 08 07*, 19 08 06*, 20 01 40* *Suitable disposal: Hazardous waste produced during the manufacture and downstream use is sent to a recycler only marginal amounts are sent to a landfill or an incinerator. Waste containing platinum is recycled for almost a 100%* *A detailed assessment has been performed and is reported in the Waste report (ARCHE, 2016)*
Other conditions affecting environmental exposure
• Receiving surface water flow rate: >= 3E6 m3/day
• Discharge to: Freshwater only
• Discharge rate of effluent: >= 3E3 m3/day

9.2.2.2. Releases

The local releases to the environment are reported in the following table. Note that the releases reported do not account for the removal in the modelled biological STP.

Table 9.24. Local releases to the environment

Release	Assessment entity	Release estimation method	Explanations
Water	Pt dissolved	Estimated release factor	**Release factor before on site RMM:** 1.19E-3% **Release factor after on site RMM:** 1.19E-3% **Local release rate:** 1.08E-3 kg/day **Explanation:** On-site wastewater treatment by chemical precipitation, sedimentation and/or filtration. Efficiency 99 % (sector data) Release factor after on-site treatment: 11.9 g/T (50P from sector data)
Air	Pt dissolved	Estimated release factor	**Release factor before on site RMM:** 3E-3% **Release factor after on site RMM:** 3E-3%

Release	Assessment entity	Release estimation method	Explanations
			Local release rate: 2.73E-3 kg/day **Explanation:** Treatment of air emissions by wet scrubbers and filters (e.g. fabric, bag, HEPA). Release factor after on-site treatment: 30 g/T (10% of SpERC RF for 'Manufacture of metal compounds')
Non agricultural soil	Pt dissolved	Estimated release factor	**Release factor after on site RMM:** 0% **Explanation:** No direct emissions to soil.

9.2.2.3. Exposure and risks for the environment and man via the environment

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table. The exposure estimates have been obtained with EUSES 2.1.2 unless stated otherwise.

Table 9.25. Exposure concentrations and risks for the environment and man via the environment

Protection target	Assessment entity	Exposure concentration	Risk quantification
Fresh water	Pt dissolved	**Local PEC:** 3.83E-7 mg/L RCR = 2.73E-3	Final RCR < 0.01
Sediment (freshwater)	Pt dissolved	**Local PEC:** 7.14E-4 mg/kg dw RCR = 2.73E-3	Final RCR < 0.01
Agricultural soil	Pt dissolved	**Local PEC:** 9.53E-4 mg/kg dw RCR = 0.182	Final RCR = 0.182

9.2.3. Worker CS 3: Handling of solutions or low dusty material and reaction (PROC 3, PROC 15; PROC 26; PROC 4; PROC 5; PROC 8b; PROC 9)

Assessment entity group used for the assessment of this contributing scenario: HHPA-2AE for OCC

9.2.3.1. Conditions of use

	Method
Product (article) characteristics	
• Physical form of substance: Various *liquid (solution, suspension) or low dusty solids (e.g. wetted)*	
• Maximum emission potential of the substance: Low *Only the highest emission potential (EP) is reported. Lower EPs (e.g. if materials of lower dustiness are being handled in parallel) are thus automatically covered in this assessment.*	
• Content in preparation: Not restricted [Effectiveness Inhalation: 0%, Dermal: 0%]	
Amount used (or contained in articles), frequency and duration of use/exposure	
• Maximum duration of exposure: > 240 min (not restricted) [Effectiveness Inhalation: 0%, Dermal: 0%]	
Technical and organisational conditions and measures	
• The following type of exhaust ventilation are appropriate for handling of platinum substances: *- Generic local exhaust ventilation* *- Integrated exhaust ventilation* *A minimum efficiency of 80 % has to be assured.*	
• Level of containment: Partly contained systems	

	Method
Platinum substances are always handled in at least partly-contained systems with only limited manual interventions. The level of containment should be as high as possible, easy maintenance should be allowed by system design.	
• Level of automation: As high as possible to reduce potential for exposure. This is inherently covered in the dermal exposure assessment by the reflection of an "incidental or intermittent" contact level (see the dermal exposure pattern below).	
• Removal of residuals: Splashes *Splashes are to be removed immediately, before drying. Please refer to the introduction for more detailed information on how clean work environments are ensured and on how to contamination is avoided in the platinum industry.*	
• Dermal pattern of use: Non-dispersive use	
• Dermal pattern of exposure control: Non-direct handling	
• Dermal contact level: Intermittent	
Conditions and measures related to personal protection, hygiene and health evaluation	
• Gloves: Protective gloves according to EN 374 have to be worn. Gloves have to be changed according to manufacturer's information or when damaged, whatever is the earlier. [Effectiveness Dermal: 90%]	
• Eye protection: Eye protection to be worn to protect from adverse effects to the eyes *Due to the adverse effects of the substance to the eyes, direct contact of the eyes with the substance is to be avoided including hand to eye transfer after touching contaminated surfaces. Suitable eye protection equipment (e.g. goggles or visors) must be worn.*	
• Respiratory protection: No [Effectiveness Inhalation: 0%]	

9.2.3.2. Exposure and risks for workers

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

Table 9.26. Exposure concentrations and risks for workers

Route of exposure and type of effects	Assessment entity	Exposure concentration	Risk quantification
Inhalation, systemic, long term	dihydrogen hexahydroxyplatinate, compound with 2-aminoethanol	5.613 µg/m³ (Measured data: Analogous data) RCR = 0.244	Final RCR = 0.244
Dermal, local, long term	dihydrogen hexahydroxyplatinate, compound with 2-aminoethanol	1 µg/cm² (Measured data: Analogous data (Ni))	Risk adequately controlled
Combined routes, systemic, long-term			Risk adequately controlled

Remarks on measured exposure:

Analogous data for dihydrogen hexahydroxyplatinate, compound with 2-aminoethanol:
Identity of the substance used: sol Pt manufacturers wet processing
Inhalation exposure, long term concentration: Number of measured data points: 4 ; GSD: 16.7
Explanation: The estimated exposure level represents the 90th percentile of the exposure distribution for estimate #10 (GSD=16.7) taken from the Pt monitoring database from the "Methodology applied in the Occupational Exposure Scenarios for Platinum Substances" document in combination with RPE (APF = 10).

Analogous data (Ni) for dihydrogen hexahydroxyplatinate, compound with 2-aminoethanol:
Identity of the substance used: Ni
Dermal exposure, local concentration on skin: Number of measured data points: 7

Explanation: The estimated exposure level (< 1µg/cm2) represents the 90th percentile of the exposure distribution for NNI in consideration of appropriate use of gloves.

Risk characterisation

Qualitative risk characterisation (Inhalation, local, long term, Inhalation, local, acute, Dermal, local, long term, Dermal, local, acute, Eye, local):
Due to the stringent conditions in place to protect for skin corrosion any other dermal adverse health effects that can be caused by HHPA-2AE are inherently prevented.
Under the prescribed conditions of use, exposure is maintained at a very low level and the risk for any adverse health effects is minimised to the technically feasible level. Therefore, risks are adequately controlled.
Further information on the risk characterisation for all qualitative hazard conclusions is given in Section 9.0.4.

9.2.4. Worker CS 4: Fully contained process (PROC 1)

Assessment entity group used for the assessment of this contributing scenario: HHPA-2AE for OCC

9.2.4.1. Conditions of use

	Method
Product (article) characteristics	
• Physical form of substance: Unknown *Not relevant (fully contained systems)*	
• Maximum emission potential of the substance: Unknown *Not relevant (fully contained systems)*	
• Content in preparation: Not restricted [Effectiveness Inhalation: 0%, Dermal: 0%]	
Amount used (or contained in articles), frequency and duration of use/exposure	
• Maximum duration of exposure: > 240 min (not restricted) [Effectiveness Inhalation: 0%, Dermal: 0%]	
Technical and organisational conditions and measures	
• Level of containment: Full containment	
• Dermal pattern of use: Closed system without breaches	
• Dermal pattern of exposure control: Non-direct handling	
• Dermal contact level: None	
• Potential for contamination *Although the process as such is fully contained, exposure from adjacent workplaces may lead to contamination. Please consider the need for personal protective equipment in these cases.*	
Conditions and measures related to personal protection, hygiene and health evaluation	
• Gloves: Protective gloves according to EN 374 have to be worn. Gloves have to be changed according to manufacturer's information or when damaged, whatever is the earlier. [Effectiveness Dermal: 90%] *Precautionary measure as gloves are not needed to demonstrate safe use.*	
• Eye protection: Eye protection to be worn to protect from adverse effects to the eyes *Due to the adverse effects of the substance to the eyes, direct contact of the eyes with the substance is to be avoided including hand to eye transfer after touching contaminated surfaces. Suitable eye protection equipment (e.g. goggles or visors) must be worn.*	
• Respiratory protection: No [Effectiveness Inhalation: 0%]	

9.2.4.2. Exposure and risks for workers

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

Table 9.27. Exposure concentrations and risks for workers

Route of exposure and type of effects	Assessment entity	Exposure concentration	Risk quantification
Inhalation, systemic, long term	dihydrogen hexahydroxyplatinate, compound with 2-aminoethanol	0.01 µg/m³ (Measured data: Analogous data) RCR = 4.35E-4	Final RCR < 0.01
Dermal, local, long term	dihydrogen hexahydroxyplatinate, compound with 2-aminoethanol	2 µg/cm² (Measured data: Analogous data (Ni))	Risk adequately controlled
Combined routes, systemic, long-term			Risk adequately controlled

Remarks on measured exposure:

Analogous data for dihydrogen hexahydroxyplatinate, compound with 2-aminoethanol:
Identity of the substance used: ClPt manufacturers separation/filtration
Inhalation exposure, long term concentration: Number of measured data points: 8 ; GSD: 2.3
Explanation: The estimated exposure level represents the 95th percentile value of the exposure distribution for the static estimate #14 (GSD=2.3) taken from the Pt monitoring database from the "Methodology applied in the Occupational Exposure Scenarios for Platinum Substances" document.

Analogous data (Ni) for dihydrogen hexahydroxyplatinate, compound with 2-aminoethanol:
Identity of the substance used: Ni
Dermal exposure, local concentration on skin: Number of measured data points: 12
Explanation: The estimated exposure level represents 1/10 of the 90th percentile of the exposure distribution for NNI (without gloves).

Risk characterisation

Qualitative risk characterisation (Inhalation, local, long term, Inhalation, local, acute, Dermal, local, long term, Dermal, local, acute, Eye, local):
Due to the stringent conditions in place to protect for skin corrosion any other dermal adverse health effects that can be caused by HHPA-2AE are inherently prevented.
Under the prescribed conditions of use, exposure is maintained at a very low level and the risk for any adverse health effects is minimised to the technically feasible level. Therefore, risks are adequately controlled.
Further information on the risk characterisation for all qualitative hazard conclusions is given in Section 9.0.4.

9.2.5. Worker CS 5: Wet cleaning (PROC 8a)

Assessment entity group used for the assessment of this contributing scenario: HHPA-2AE for OCC

9.2.5.1. Conditions of use

	Method
Product (article) characteristics	
• Physical form of substance: Liquid *Solution, suspension*	
• Maximum emission potential of the substance: Very low	
• Content in preparation: Not restricted [Effectiveness Inhalation: 0%, Dermal: 0%]	
Amount used (or contained in articles), frequency and duration of use/exposure	
• Maximum duration of exposure: > 240 min (not restricted) [Effectiveness Inhalation: 0%, Dermal: 0%]	
Technical and organisational conditions and measures	
• Removal of residuals: Splashes *Removal of residuals is considered to be part of regular work.* *Splashes are to be removed immediately, before drying. Please refer to the introduction for more detailed information on how clean work environments are ensured and on how*	

	Method
to contamination is avoided in the platinum industry. *Workplaces are to be cleaned before any maintenance work starts.*	
• Dermal pattern of use: Non-dispersive use	
• Dermal pattern of exposure control: Direct handling	
• Dermal contact level: Extensive	
Conditions and measures related to personal protection, hygiene and health evaluation	
• Gloves: Protective gloves according to EN 374 have to be worn. Gloves have to be changed according to manufacturer's information or when damaged, whatever is the earlier. [Effectiveness Dermal: 90%]	
• Eye protection: Eye protection to be worn to protect from adverse effects to the eyes *Due to the adverse effects of the substance to the eyes, direct contact of the eyes with the substance is to be avoided including hand to eye transfer after touching contaminated surfaces. Suitable eye protection equipment (e.g. goggles or visors) must be worn.*	
• Respiratory protection: No [Effectiveness Inhalation: 0%]	

9.2.5.2. Exposure and risks for workers

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

Table 9.28. Exposure concentrations and risks for workers

Route of exposure and type of effects	Assessment entity	Exposure concentration	Risk quantification
Inhalation, systemic, long term	dihydrogen hexahydroxyplatinate, compound with 2-aminoethanol	0.03 µg/m³ (Measured data: Analogous data) RCR = 1.3E-3	Final RCR < 0.01
Dermal, local, long term	dihydrogen hexahydroxyplatinate, compound with 2-aminoethanol	10 µg/cm² (Measured data: Analogous data (Ni))	Risk adequately controlled
Combined routes, systemic, long-term			Risk adequately controlled

Remarks on measured exposure:

Analogous data for dihydrogen hexahydroxyplatinate, compound with 2-aminoethanol:
Identity of the substance used: sol Pt manufacturers Packaging/Filling
Inhalation exposure, long term concentration: Number of measured data points: 2 ; GSD: 2.2
Explanation: The estimated exposure level represents the maximum value of the exposure distribution for estimate #25 (GSD=2.2) taken from the Pt monitoring database from the "Methodology applied in the Occupational Exposure Scenarios for Platinum Substances" document.

Analogous data (Ni) for dihydrogen hexahydroxyplatinate, compound with 2-aminoethanol:
Identity of the substance used: Ni
Dermal exposure, local concentration on skin: Number of measured data points: 17
Explanation: The estimated exposure level represents the 90th percentile of the exposure distribution for NDE in consideration of appropriate use of gloves.

Risk characterisation

Qualitative risk characterisation (Inhalation, local, long term, Inhalation, local, acute, Dermal, local, long term, Dermal, local, acute, Eye, local):
Due to the stringent conditions in place to protect for skin corrosion any other dermal adverse health effects that can be caused by HHPA-2AE are inherently prevented.
Under the prescribed conditions of use, exposure is maintained at a very low level and the risk for any adverse

health effects is minimised to the technically feasible level. Therefore, risks are adequately controlled.
Further information on the risk characterisation for all qualitative hazard conclusions is given in Section 9.0.4.

9.2.6. Worker CS 6: Vacuum cleaning (PROC 26)

Assessment entity group used for the assessment of this contributing scenario: HHPA-2AE for OCC

9.2.6.1. Conditions of use

	Method
Product (article) characteristics	
• Physical form of substance: Solid *Dusty residuals*	
• Maximum emission potential of the substance: High *Only the highest emission potential (EP) is reported. Lower EPs (e.g. if materials of lower dustiness are being handled in parallel) are thus automatically covered in this assessment.*	
• Content in preparation: Not restricted [Effectiveness Inhalation: 0%, Dermal: 0%]	
Amount used (or contained in articles), frequency and duration of use/exposure	
• Maximum duration of exposure: > 240 min (not restricted) [Effectiveness Inhalation: 0%, Dermal: 0%]	
Technical and organisational conditions and measures	
• Removal of residuals: Dusty residuals *A highly efficient vacuum cleaner is to be used. No direct manual removal of dust. Removal of dusty residuals is considered to be part of regular work. Dust may not be blown off with compressed air. Please refer to the introduction for more detailed information on how clean work environments are ensured and on how to contamination is avoided in the platinum industry.* *Workplaces are to be cleaned before any maintenance work starts.*	
• Dermal pattern of use: Non-dispersive use	
• Dermal pattern of exposure control: Non-direct handling	
• Dermal contact level: Extensive	
Conditions and measures related to personal protection, hygiene and health evaluation	
• Gloves: Protective gloves according to EN 374 have to be worn. Gloves have to be changed according to manufacturer's information or when damaged, whatever is the earlier. [Effectiveness Dermal: 90%]	
• Eye protection: Eye protection to be worn to protect from adverse effects to the eyes *Due to the adverse effects of the substance to the eyes, direct contact of the eyes with the substance is to be avoided including hand to eye transfer after touching contaminated surfaces. Suitable eye protection equipment (e.g. goggles or visors) must be worn.*	
• Respiratory protection: No [Effectiveness Inhalation: 0%]	

9.2.6.2. Exposure and risks for workers

The exposure concentrations and risk characterisation ratios (RCR) are reported in the following table.

Table 9.29. Exposure concentrations and risks for workers

Route of exposure and type of effects	**Assessment entity**	**Exposure concentration**	**Risk quantification**
Inhalation, systemic, long term	dihydrogen hexahydroxyplatinate, compound with 2-aminoethanol	2.96 µg/m³ (Measured data: Analogous data) RCR = 0.129	Final RCR = 0.129

Route of exposure and type of effects	Assessment entity	Exposure concentration	Risk quantification
Dermal, local, long term	dihydrogen hexahydroxyplatinate, compound with 2-aminoethanol	1 µg/cm² (Measured data: Analogous data (Ni))	Risk adequately controlled
Combined routes, systemic, long-term			Risk adequately controlled

Remarks on measured exposure:

Analogous data for dihydrogen hexahydroxyplatinate, compound with 2-aminoethanol:
Identity of the substance used: ClPt manufacturers cleaning and maintenance
Inhalation exposure, long term concentration: Number of measured data points: 17 ; GSD: 5.1
Explanation: The estimated exposure level represents the maximum value of the exposure distribution for estimate #27 (GSD=5.1) taken from the Pt monitoring database from the "Methodology applied in the Occupational Exposure Scenarios for Platinum Substances" document.

Analogous data (Ni) for dihydrogen hexahydroxyplatinate, compound with 2-aminoethanol:
Identity of the substance used: Ni
Dermal exposure, local concentration on skin: Number of measured data points: 7
Explanation: The estimated exposure level (<1 µg/cm2) represents the 90th percentile of the exposure distribution for NNE in consideration of the use of appropriate gloves.

Risk characterisation

Qualitative risk characterisation (Inhalation, local, long term, Inhalation, local, acute, Dermal, local, long term, Dermal, local, acute, Eye, local):
Due to the stringent conditions in place to protect for skin corrosion any other dermal adverse health effects that can be caused by HHPA-2AE are inherently prevented.
Under the prescribed conditions of use, exposure is maintained at a very low level and the risk for any adverse health effects is minimised to the technically feasible level. Therefore, risks are adequately controlled.
Further information on the risk characterisation for all qualitative hazard conclusions is given in Section 9.0.4.