

HOMEOPATHIC MEDICINAL PRODUCT WORKING GROUP
(HMPWG)

2ND LIST OF FIRST SAFE DILUTIONS (FSD)

DISCUSSION IN THE FSD-SUBGROUP	4 October 2016
DISCUSSION IN THE HMPWG	November / December 2016
ADOPTION BY THE HMPWG for public consultation	5 January 2017
TRANSMISSION TO HMA for release for consultation	15 February 2017
DEADLINE FOR COMMENTS	16 May 2017
DISCUSSION IN THE SUBGROUP FSD	2 – 8 June 2017
ADOPTION BY THE FSD-SUBGROUP	8 June 2017
DISCUSSION IN HMPWG and Adoption	26 – 27 June 2017

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Stock*/raw/starting material**	Method of Preparation	Toxic component concentration	Basis for FSD	Acceptable amount	Reference	Calculation method	FSD	Remarks
Ambra grisea Ph. Franç.	Ph. Eur. 1.1.11 (Ph. Franç.): MT = 1/20	content of starting material	PDE	2µg ambrein/kg/day → 6 µg ambrein/day (neonate)	Taha SA, Raza M, Gader AG, Ha-feez MA. A study of ambrein treatment for the evaluation of change in plasma biochemical parameters in rat. Jpn J Pharmacol. 1995 Mar; 67(3): 205-9	10 g MT = 500 mg raw material → 10 g D5 = 5 µg raw material	D5	No validated assay and no upper limit of ambrein; worst case assumption is applicable (basis amount of raw material). Derivation of PDE ambrein: LOAEL rat 10 mg/kg/day divided by UF (F1-F5 = 5 x10 x 10 x 1 x 10) → 2 µg ambrein/kg/day x 3 kg bw neonate = 6 µg ambrein/day
Ambra grisea HAB	preparation of MT = D1: 10 parts comminuted substance + 100 parts ethanol	content of starting material	PDE	2µg ambrein/kg/day → 6 µg ambrein/day (neonate)	Taha SA, Raza M, Gader AG, Ha-feez MA. A study of ambrein treatment for the evaluation of change in plasma biochemical parameters in rat. Jpn J Pharmacol. 1995 Mar; 67(3): 205-9	10 g MT = D1: 1000 mg raw material → 10 g D7 = 1 µg raw material	D7	No validated assay and no upper limit of ambrein; worst case assumption is applicable (basis amount of raw material) Derivation of PDE ambrein: LOAEL rat 10 mg/kg/day divided by UF (F1-F5 = 5 x10 x 10 x 1 x 10) → 2 µg ambrein/kg/day x 3 kg bw neonate = 6 µg ambrein/day
Antimonite Sb₂S₃ HAB See Antimonium crudum (Ph. Franç.) and Stibium sulfuratum nigrum (HAB)	Ph. Eur. 4.1.1 (HAB 6)	Sb ₂ S ₃ : 9.0-10.5 % in D1 Mr 339.7 Relative content Sb in stock = 71.69 %	PDE	24 µg Sb/kg/day → 72 µg Sb/day (neonate)	ICH guideline Q3D on elemental impurities (EMA/CHMP/ICH/353369/2013)	10 g D1 = 1050 mg Sb ₂ S ₃ = 752.75 mg Sb → 10g D6 = 7.53 µg Sb	D6	Derivation of PDE antimony: NOAEL 6000 µg Sb/kg/d divided by UF (F1-F5 = 5 x 10 x 5 x 1 x 1) = 24 µg Sb/kg/d x 3 kg bw neonate = 72 µg Sb/d

1	2	3	4	5	6	7	8	9
Stock*/raw/star ting material**	Method of Preparation	Toxic component concentration	Basis for FSD	Acceptable amount	Reference	Calculation method	FSD	Remarks
Antimonium crudum Sb₂S₃ Ph. Franç. See Antimonite (HAB) and Stibium sulfura- tum nigrum. (HAB)	Ph. Eur. 4.1.2 (Ph. Franç.)	Sb ₂ S ₃ : 98.0-102.0 % in stock Mr 339.7 Relative content Sb in stock = 71.69 %	PDE	24 µg Sb/kg/day → 72 µg Sb/day (neonate)	ICH guideline Q3D on elemental impurities (EMA/CHMP/ICH/353369/2013)	10 g D1 = 1020 mg Sb ₂ S ₃ = 731.24 mg Sb → 10g D6 = 7.31 µg Sb	D6	Derivation of PDE antimony: NOAEL 6000 µg Sb/kg/d divided by UF (F1-F5 = 5 x 10 x 5 x 1 x 1) = 24 µg Sb/kg/d x 3 kg bw neonate = 72 µg Sb/d
Argentite Ag₂S HAB	Ph. Eur. 4.1.1 (HAB 6) Ph. Eur. 4.1.2 (Ph. Franç.)	Ag ₂ S: 9.0-10.5 % in D1 Mr 247.8 Relative content Ag in stock = 87.06 %	PDE	3.3 µg Ag/kg/day → 9.9 µg Ag/day (neonate)	ICH guideline Q3D on elemental impurities (EMA/CHMP/ICH/353369/2013)	10 g D1 = 1050 mg Ag ₂ S = 914.13 mg Ag → 10 g D6 = 9.14 µg Ag	D6	Derivation of PDE silver: PDE is consistent with the RfD (reference dose) of 5 µg Ag/kg/day (US EPA, 2003); LOAEL 20 mg Ag/kg divided by UF (F1-F5 = 12 x 10 x 5 x 1 x 10 = 6000) → 0.0033 mg Ag/kg/d x 3 kg bw neonate → 0.0099 mg Ag/d = 9.9 µg Ag/d
Argentum colloidal Ag HAB	specific prepara- tion: 1 part stock is solubil- ized in 99 parts H ₂ O → 1 part of this solution + 9 parts H ₂ O = D3	Ag: 0.067-0.078 % in D3	PDE	3.3 µg Ag/kg/day → 9.9 µg Ag/day (neonate)	ICH guideline Q3D on elemental impurities (EMA/CHMP/ICH/353369/2013)	10 g D3 = 7.8 mg Ag → 10 g D6 = 7.8 µg Ag	D6	Derivation of PDE silver: PDE is consistent with the RfD (reference dose) of 5 µg Ag/kg/day (US EPA, 2003); LOAEL 20 mg Ag/kg divided by UF (F1-F5 = 12 x 10 x 5 x 1 x 10 = 6000) → 0.0033 mg Ag/kg/d x 3 kg bw neonate → 0.0099 mg Ag/d = 9.9 µg Ag/d

1	2	3	4	5	6	7	8	9
Stock*/raw/star ting material**	Method of Preparation	Toxic component concentration	Basis for FSD	Acceptable amount	Reference	Calculation method	FSD	Remarks
Argentum metallicum Ag HAB	Ph. Eur. 4.1.1 (HAB 6)	Ag: 9.4-10.6 % in D1	PDE	3.3 µg Ag/kg/day → 9.9 µg Ag/day (neonate)	ICH guideline Q3D on elemental impurities (EMA/CHMP/ICH/353369/2013)	10 g D1 = 1060 mg Ag → 10 g D7 = 1.06 µg Ag	D7	Derivation of PDE silver: PDE is con- sistent with the RfD (reference dose) of 5 µg Ag/kg/day (US EPA, 2003); LOAEL 20 mg Ag/kg divided by UF (F1-F5 = 12 x 10 x 5 x 1 x 10 = 6000) → 0.0033 mg Ag/kg/d x 3 kg bw neonate → 0.0099 mg Ag/d = 9.9 µg Ag/d
Argentum metallicum Ag Ph. Franç.	Ph. Eur. 4.1.2 (Ph. Franç.)	Ag: 99.0-100.5 % in stock	PDE	3.3 µg Ag/kg/day → 9.9 µg Ag/day (neonate)	ICH guideline Q3D on elemental impurities (EMA/CHMP/ICH/353369/2013)	10 g D1 = 1005 mg Ag → 10 g D7 = 1.005 µg Ag	D7	Derivation of PDE silver: PDE is con- sistent with the RfD (reference dose) of 5 µg Ag/kg/day (US EPA, 2003); LOAEL 20 mg Ag/kg divided by UF (F1-F5 = 12 x 10 x 5 x 1 x 10 = 6000) → 0.0033 mg Ag/kg/d x 3 kg bw neonate → 0.0099 mg Ag/d = 9.9 µg Ag/d

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Stock*/raw/star ting material**	Method of Preparation	Toxic component concentration	Basis for FSD	Acceptable amount	Reference	Calculation method	FSD	Remarks
Argentum nitricum AgNO₃ HAB	Ph. Eur. 3.1.1 (HAB 5a)	AgNO ₃ : 9.4-10.6 % in D1 Mr 169.9 Relative content Ag in stock = 63.49 % Relative content NO ₃ in stock = 36.51 %	PDE	3.3 µg Ag/kg/day → 9.9 µg Ag/day (neonate) ADI for nitrate: 3.7 mg/kg bw, expressed as nitrate ion → 11.1 mg/day (neonate)	Ag: ICH guideline Q3D on elemental impurities (EMA/CHMP/ICH/353369/2013) Nitrate: WHO FOOD ADDITIVES SERIES: 50 NITRATE	10 g D1 = 1060 mg AgNO ₃ = 672.99 mg Ag and 387 mg nitrate → 10 g D6 = 6.73 µg Ag and 3.87 µg nitrate	D6	Derivation of PDE silver: PDE is con- sistent with the RfD (reference dose) of 5 µg Ag/kg/day (US EPA, 2003); LOAEL 20 mg Ag/kg divided by UF (F1-F5 = 12 x 10 x 5 x 1 x 10 = 6000) → 0.0033 mg Ag/kg/d x 3 kg bw neonate → 0.0099 mg Ag/d = 9.9 µg Ag/d
Argentum nitricum AgNO₃ Ph. Franç.	Ph. Eur. 4.1.2 (Ph. Franç.)	AgNO ₃ : 99.0-100.5 % in stock Mr 169.9 Relative content Ag in stock = 63.49 % Relative content NO ₃ in stock = 36.51 %	PDE	3.3 µg Ag/kg/day → 9.9 µg Ag/day (neonate) ADI for nitrate: 3.7 mg/kg bw, expressed as nitrate ion → 11.1 mg/day (neonate)	Ag: ICH guideline Q3D on elemental impurities (EMA/CHMP/ICH/353369/2013) Nitrate: WHO FOOD ADDITIVES SERIES: 50 NITRATE	10 g D1 = 1005 mg AgNO ₃ = 638.1 mg Ag and 366.9 mg nitrate → 10 g D6 = 6.38 µg Ag and 3.67 µg nitrate	D6	Derivation of PDE silver: PDE is con- sistent with the RfD (reference dose) of 5 µg Ag/kg/day (US EPA, 2003); LOAEL 20 mg Ag/kg divided by UF (F1-F5 = 12 x 10 x 5 x 1 x 10 = 6000) → 0.0033 mg Ag/kg/d x 3 kg bw neonate → 0.0099 mg Ag/d = 9.9 µg Ag/d Conclusive remark: The PDE of silver is more conserva- tive and thus the relevant one for FSD assessment.

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Stock*/raw/starting material**	Method of Preparation	Toxic component concentration	Basis for FSD	Acceptable amount	Reference	Calculation method	FSD	Remarks
Auri solutio colloidalis Au HAB	75 parts Sodium hydrogen carbonate (Ph. Eur.) + solution of 2 parts Sodium tetrachloroauratum (HAB) + 1800 parts purified water. Addition of 100 parts of acacia solution R and 35 parts of anhydrous formic acid R.	Au: 0.095-0.105 % in D3	LHRD	5 µg Au/kg/day → 15 µg Au/day (neonate)	GUY E. ABRAHAM PETER B. HIMMEL (1997) Management of Rheumatoid Arthritis: Rationale for the Use of Colloidal Metallic Gold, Journal of Nutritional & Environmental Medicine, 7:4, 295-305	10 g D3 = 10.5 mg Au → 10 g D6 = 10.5 µg Au	D6	Derivation of LHRD/100 for colloidal metallic gold: LHRD 30 mg Au/day (24 weeks, human study, no clinical evidence of toxicity in patients) → LHRD/100 = 0.3 mg Au/day ÷ 60 kg bw = 5 µg Au/kg/day = 15 µg Au/neonate/day
Aurum chloratum H[AuCl₄] · 3 H₂O HAB	Ph. Eur. 3.1.1 (HAB 5a) Ph. Eur. 4.1.2 (Ph. Franç.)	Au: 4.7-5.1 % in D1	PDE	2.7 µg Au/kg/day → 8.00 µg Au/day (neonate)	ICH guideline Q3D on elemental impurities (EMA/CHMP/ICH/353369/2013)	10 g D1 = 510 mg Au → 10 g D6 = 5.1 µg Au	D6	Derivation of PDE gold: LOAEL 32.2 mg Au/kg divided by UF (F1-F5 = 12 x 10 x 10 x 1 x 10) → 0.0027 mg Au/kg/d x 3 kg bw neonate → 0.008 mg Au/d = 8.00 µg Au/d French homeopathic traditional name: "Aurum muriaticum" .

1	2	3	4	5	6	7	8	9
Stock*/raw/star ting material**	Method of Preparation	Toxic component concentration	Basis for FSD	Acceptable amount	Reference	Calculation method	FSD	Remarks
Aurum metallicum Au HAB	Ph. Eur. 4.1.1 (HAB 6)	Au: 9.5-10.5 % in D1	Food regu- lation	quantum satis for external coating of confectionery	REGULATION (EC) No 1333/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 De- cember 2008 on food additives EFSA Journal 2016; 14(1):4362: Scientific Opinion on the re- evaluation of gold (E 175) as a food additive	10 g D1 = 1050 mg Au	D1	Current evaluation of gold in EFSA Journal 2016; 14(1):4362: Scientific Opinion on the re-evaluation of gold (E 175) as a food additive: "... The Panel concluded that, despite the absence of toxicity data, but taking into account the low solubility of elemental gold, systemic availability and thus systemic effects of ele- mental gold would not be expected. ..." FSD = D1, as D1 is the first possible homeopathic preparation according to the monograph.
Aurum metallicum Au Ph. Franç.	Ph. Eur. 4.1.2 (Ph. Franç.)	Au: 98.0-101.0 in stock	Food regu- lation	quantum satis for external coating of confectionery	REGULATION (EC) No 1333/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 De- cember 2008 on food additives EFSA Journal 2016; 14(1):4362: Scientific Opinion on the re- evaluation of gold (E 175) as a food additive	10 g D1 = 1010 mg Au	D1	Current evaluation of gold in EFSA Journal 2016; 14(1):4362: Scientific Opinion on the re-evaluation of gold (E 175) as a food additive: "... The Panel concluded that, despite the absence of toxicity data, but taking into account the low solubility of elemental gold, systemic availability and thus systemic effects of ele- mental gold would not be expected. ..." FSD = D1, as D1 is the first possible homeopathic preparation according to the monograph.

1	2	3	4	5	6	7	8	9
Stock*/raw/star ting material**	Method of Preparation	Toxic component concentration	Basis for FSD	Acceptable amount	Reference	Calculation method	FSD	Remarks
Barium carbonicum BaCO₃ HAB See Baryta car- bonica (Ph. Franç.)	Ph. Eur. 4.1.1 (HAB 6)	BaCO ₃ : 9.3-10.6 % in D1 Mr 197.3 Relative content Ba in stock = 69.6 %	PDE	1460 µg Ba/day (neonate)	ICH guideline Q3D on elemental impurities (EMA/CHMP/ICH/353369/2013)	10 g D1 = 1060 mg BaCO ₃ = 737.76 mg Ba → 10 g D4 = 737.8 µg Ba	D4	Derivation of PDE barium: NOAEL = 14.6 mg Ba/d : UF (F1-F5 = 1 x 10 x 1 x 1 x 1) = 1.46 mg Ba/d = 1460 µg Ba/d Applicable to newborns, hence NO further weight adjustment to PDE ICH Q3D necessary.
Barium chloratum BaCl₂ · 2H₂O HAB/Ph. Eur.	Ph. Eur. 3.1.1 (HAB 5a) Ph. Eur. 4.1.2 (Ph. Franç.)	BaCl ₂ · 2H ₂ O: 9.4- 10.6 % in D1 Mr 244.3 Relative content Ba in stock = 56.21 %	PDE	1460 µg Ba/day (neonate)	ICH guideline Q3D on elemental impurities (EMA/CHMP/ICH/353369/2013)	10 g D1 = 1060 mg BaCl ₂ · 2H ₂ O = 595.83 mg Ba → 10 g D4 = 595.8 µg Ba	D4	Derivation of PDE barium: NOAEL = 14.6 mg Ba/d : UF (F1-F5 = 1 x 10 x 1 x 1 x 1) = 1.46 mg Ba/d = 1460 µg Ba/d Applicable to newborns, hence NO further weight adjustment to PDE ICH Q3D necessary. French homeopathic traditional name: " Baryta muriatica ".
Baryta carbonica BaCO₃ Ph. Franç. See Barium car- bonicum (HAB)	Ph. Eur. 4.1.2 (Ph. Franç.)	BaCO ₃ : 98.0-101.0 % in stock Mr 197.3 Relative content Ba in stock = 69.6 %	PDE	1460 µg Ba/day (neonate)	ICH guideline Q3D on elemental impurities (EMA/CHMP/ICH/353369/2013)	10 g D1 = 1010 mg BaCO ₃ = 702.96 mg Ba → 10 g D4 = 702.96 µg Ba	D4	Derivation of PDE barium: NOAEL = 14.6 mg Ba/d : UF (F1-F5 = 1 x 10 x 1 x 1 x 1) = 1.46 mg Ba/d = 1460 µg Ba/d Applicable to newborns, hence NO further weight adjustment to PDE ICH Q3D necessary.

1	2	3	4	5	6	7	8	9
Stock*/raw/star ting material**	Method of Preparation	Toxic component concentration	Basis for FSD	Acceptable amount	Reference	Calculation method	FSD	Remarks
Bellis perennis HAB	Ph. Eur. 1.1.3 (HAB 2a): D1 = 2 MT + 8 etha- nol	N/A	MRL	no need for MRL	Committee for Veterinary Medici- nal Products - Bellis perennis - Summary Report (EMA/MRL/663/99-FINAL; http://www.ema.europa.eu/docs/en_GB/document_library/Maximum_Residue_Limits_-_Report/2009/11/WC500010965.pdf)	·/·	MT	
Bellis perennis Ph. Franç.	Ph. Eur. 1.1.10 (Ph. Franç.)	N/A	MRL	no need for MRL	Committee for Veterinary Medici- nal Products - Bellis perennis - Summary Report (EMA/MRL/663/99-FINAL; http://www.ema.europa.eu/docs/en_GB/document_library/Maximum_Residue_Limits_-_Report/2009/11/WC500010965.pdf)	·/·	MT	
Blatta orientalis HAB	Monograph specific prepa- ration for the MT = D1. Ph. Eur. 1.1.9 (HAB 4b) from D2 onwards	Chitin	ADI	no limit	USEPA/Office of Pesticide Pro- grams; Biopesticide Active Ingre- dient Factsheet- Chitin; Poly-N- acetyl-D-glucosamine (128991). Issued 3/01. Available from, as of March 15, 2004: http://www.epa.gov/pesticides/biopesticides/ingredients/index.htm **PEER REVIEWED**	·/·	MT	

1	2	3	4	5	6	7	8	9
Stock*/raw/starting material**	Method of Preparation	Toxic component concentration	Basis for FSD	Acceptable amount	Reference	Calculation method	FSD	Remarks
Cadmium sulfuricum $\text{CdSO}_4 \cdot \frac{8}{3} \text{H}_2\text{O}$ HAB/Ph. Eur.	Ph. Eur. 4.1.1 (HAB 6) Ph. Eur. 4.1.2 (Ph. Franç.)	$\text{CdSO}_4 \cdot \frac{8}{3} \text{H}_2\text{O}$: 9.4-10.7 % in D1 Mr 256.5 Relative content Cd in stock = 43.83 %	PDE	0.1 µg Cd/kg/day → 0.3 µg Cd/day (neonate)	ICH guideline Q3D on elemental impurities (EMA/CHMP/ICH/353369/2013)	10 g D1 = 1070 mg $\text{CdSO}_4 \cdot \frac{8}{3} \text{H}_2\text{O}$ = 468.98 mg Cd → 10 g D8 = 0.0469 µg Cd	D8	Derivation of PDE cadmium: $\text{MRL} = 0.1 \mu\text{g Cd/kg} \times 3 \text{ kg bw neonate} \rightarrow 0.3 \mu\text{g Cd/d (no UF)}$ Preparations applied as a spray shall be assessed on the basis of the inhalation PDE for cadmium (=1,7 µg/day).
Calcium stibiato-sulfuratum HAB	Ph. Eur. 4.1.1 (HAB 6) Ph. Eur. 4.1.2 (Ph. Franç.)	Mixture of Sb_2S_3 , S and Calcium carbonicum Hahnemannii (CaCO_3) D1: 0.85-1.2 % Sb, 1.7-2.4 % S	PDE	24 µg Sb/kg/day → 72 µg Sb/day (neonate)	ICH guideline Q3D on elemental impurities (EMA/CHMP/ICH/353369/2013)	10 g D1 = 120 mg Sb → 10 g D5 = 12 µg Sb	D5	Derivation of PDE antimony: $\text{NOAEL } 6000 \mu\text{g Sb/kg/d divided by UF (F1-F5} = 5 \times 10 \times 5 \times 1 \times 1) = 24 \mu\text{g Sb/kg/d} \times 3 \text{ kg bw neonate} = 72 \mu\text{g Sb/d}$ French homeopathic traditional name: " Calcarea sulfurata ".
Chalcosine Cu_2S HAB	Ph. Eur. 4.1.1 (HAB 6) Ph. Eur. 4.1.2 (Ph. Franç.)	Cu_2S : 8.1-10.0 % in D1 Mr 159.2 Relative content Cu in stock = 79.84 %	mean intakes per day adequate for the majority of infants of the first half-year of life	300 µg Cu/day (neonate)	Scientific Opinion on nutrient requirements and dietary intakes of infants and young children in the European Union, EFSA Journal 2013;11(10):3408	10 g D1 = 1000 mg Cu_2S = 798.4 mg Cu → 10 g D5 = 79.84 µg Cu	D5	French homeopathic traditional name: " Cuprum sulfuratum ".

1	2	3	4	5	6	7	8	9
Stock*/raw/star ting material**	Method of Preparation	Toxic component concentration	Basis for FSD	Acceptable amount	Reference	Calculation method	FSD	Remarks
Chininum arsenicum $C_{20}H_{24}N_2O_2 + As_2O_3$ HAB	Ph. Eur. 4.1.1 (HAB 6) Ph. Eur. 4.1.2 (Ph. Franç.)	$C_{20}H_{24}N_2O_2$: 8.5-9.7 % in D1 As_2O_3 : 0.86-0.99 % in D1 Mr 197.8 (As_2O_3) Relative content As in As_2O_3 = 75.76 %	PDE As LHRD qui- nine	0.3 µg As/kg/day → 0.9 µg As/day (neonate) 0.81 mg qui- nine/day (neonate)	Arsenic: ICH guideline Q3D on elemental impurities (EMA/CHMP/ICH/353369/2013) Quinine: http://www.merckmanuals.com	10 g D1 = 99 mg As_2O_3 = 75 mg As and 970 mg quinine → 10 g D6 = 0.75 µg As and 9.7 µg quinine	D6	Derivation of PDE arsenic: MRL = 0.0003 mg As/kg/d x 3 kg bw neo- nate → 0.9 µg As/d (no UF) Derivation of LHRD Quinine: LHRD is based on the lowest daily dose of quinine for children in treatment of uncomplicated chloroquine- resistant P. falciparum malaria = 9 mg quinine/kg every 8 hours corre- sponding to 81 mg quinine/day for 3 kg neonate Conclusive remark: The PDE of arsenic is more con- servative and thus the relevant one for FSD assessment.
Cobaltum metallicum Co HAB	Ph. Eur. 4.1.1 (HAB 6) Ph. Eur. 4.1.2 (Ph. Franç.)	Co: 9.4-10.6 % in D1	PDE	1 µg Co/kg/day → 3 µg Co/day (neonate)	ICH guideline Q3D on elemental impurities (EMA/CHMP/ICH/353369/2013)	10 g D1 = 1060 mg Co → 10 g D7 = 1.06 µg Co	D7	Derivation of PDE cobalt: NOAEL = 1 mg/d: UF (F1-F5 = 1 x 10 x 2 x 1 x 1) = 50 µg Co/d ÷ 50 kg = 1 µg Co/kg/d x 3 kg bw neonate → 3 µg Co/d
Cuprite Cu_2O HAB	Ph. Eur. 4.1.1 (HAB 6) Ph. Eur. 4.1.2 (Ph. Franç.)	Cu_2O : 8.1-10.5 % in D1 Mr 143.1 Relative content Cu in stock = 88.82 %	mean in- takes per day ade- quate for the majori- ty of infants of the first half-year of life	300 µg Cu/day (neonate)	Scientific Opinion on nutrient requirements and dietary intakes of infants and young children in the European Union, EFSA Journal 2013;11(10):3408	10 g D1 = 1050 mg Cu_2O = 932.61 mg Cu → 10 g D5 = 93.26 µg Cu	D5	

1	2	3	4	5	6	7	8	9
Stock*/raw/star ting material**	Method of Preparation	Toxic component concentration	Basis for FSD	Acceptable amount	Reference	Calculation method	FSD	Remarks
Cuprum aceticum Cu(C₂H₃O₂)₂ · H₂O HAB/Ph. Eur.	Ph. Eur. 3.1.1 (HAB 5a) Ph. Eur. 4.1.2 (Ph. Franç.)	Cu(C ₂ H ₃ O ₂) ₂ · H ₂ O: 0.94 - 1.06 % in D2 Mr = 199.7 Relative content Cu in stock = 31.83 %	mean in- takes per day ade- quate for the majori- ty of infants of the first half-year of life	300 µg Cu/day (neonate)	Scientific Opinion on nutrient requirements and dietary intakes of infants and young children in the European Union, EFSA Journal 2013;11(10):3408	10 g D1 = 1060 mg C ₄ H ₆ CuO ₄ · H ₂ O = 337.29 mg Cu → 10 g D5 = 33.73 µg Cu	D5	
Cuprum arsenicum HAB	Ph. Eur. 4.1.1 (HAB 6) Ph. Eur. 4.1.2 (Ph. Franç.)	Precipitated copper subarsenite: 2.5-3.4 % As in D1, 3.4-4.3 % Cu in D1	PDE (arse- nic) mean in- takes per day ade- quate for the majori- ty of infants of the first half-year of life (copper)	0.3 µg As/kg/day → 0.9 µg As/day (neonate) 300 µg Cu/day (neonate)	ICH guideline Q3D on elemental impurities (EMA/CHMP/ICH/353369/2013) Scientific Opinion on nutrient requirements and dietary intakes of infants and young children in the European Union, EFSA Journal 2013;11(10):3408	10 g D1 = 340 mg As and 430 mg Cu → 10 g D7 = 0.34 µg As and 0.43 µg Cu	D7	Derivation of PDE arsenic: MRL = 0.0003 mg As/kg/d x 3 kg bw neo- nate → 0.9 µg As/d (no UF). Conclusive remark: The PDE of arsenic is more con- servative and thus the relevant one for FSD assessment.
Cuprum metallicum Cu HAB/Ph. Eur.	Ph. Eur. 4.1.1 (HAB 6) Ph. Eur. 4.1.2 (Ph. Franç.)	Cu: 9.5-10.5 % in D1	mean in- takes per day ade- quate for the majori- ty of infants of the first half-year of life	300 µg Cu/day (neonate)	Scientific Opinion on nutrient requirements and dietary intakes of infants and young children in the European Union, EFSA Journal 2013;11(10):3408	10 g D1 = 1050 mg Cu → 10 g D5 = 105.0 µg Cu	D5	

1	2	3	4	5	6	7	8	9
Stock*/raw/star ting material**	Method of Preparation	Toxic component concentration	Basis for FSD	Acceptable amount	Reference	Calculation method	FSD	Remarks
Cuprum oxyda- tum nigrum CuO HAB	Ph. Eur. 4.1.1 (HAB 6) Ph. Eur. 4.1.2 (Ph. Franç.)	CuO: 9.1-10.6 % in D1 Mr 79.55 Relative content Cu in stock = 79.88 %	mean in- takes per day ade- quate for the majori- ty of infants of the first half-year of life	300 µg Cu/day (neonate)	Scientific Opinion on nutrient requirements and dietary intakes of infants and young children in the European Union, EFSA Journal 2013;11(10):3408	10 g D1 = 1060 mg CuO = 846.73 mg Cu → 10 g D5 = 84.67 µg Cu	D5	
Cuprum sulfuricum CuSO₄ · 5H₂O HAB	Ph. Eur. 4.1.1 (HAB 6) Ph. Eur. 4.1.2 (Ph. Franç.)	CuSO ₄ · 5H ₂ O: 9.4- 10.6 % in D1 Mr 249.7 Relative content Cu in stock = 25.45 %	mean in- takes per day ade- quate for the majori- ty of infants of the first half-year of life	300 µg Cu/day (neonate)	Scientific Opinion on nutrient requirements and dietary intakes of infants and young children in the European Union, EFSA Journal 2013;11(10):3408	10 g D1 = 1060 mg CuSO ₄ · 5H ₂ O = 269.77 mg Cu → 10 g D4 = 269.77 µg Cu	D4	
Dioptase Cu₆(Si₆O₁₈) · 6 H₂O HAB	Ph. Eur. 4.1.1 (HAB 6) Ph. Eur. 4.1.2 (Ph. Franç.)	Cu ₆ (Si ₆ O ₁₈) · 6 H ₂ O: 8.6-10.5 % in D1 Mr 946 Relative content Cu in stock = 40.3 %	mean in- takes per day ade- quate for the majori- ty of infants of the first half-year of life	300 µg Cu/day (neonate)	Scientific Opinion on nutrient requirements and dietary intakes of infants and young children in the European Union, EFSA Journal 2013;11(10):3408	10 g D1 = 1050 mg Cu ₆ (Si ₆ O ₁₈) · 6 H ₂ O = 423.15 mg Cu → 10 g D5 = 42.32 µg Cu	D5	

1	2	3	4	5	6	7	8	9
Stock*/raw/star ting material**	Method of Preparation	Toxic component concentration	Basis for FSD	Acceptable amount	Reference	Calculation method	FSD	Remarks
Dyscrasite Ag₃Sb HAB	Ph. Eur. 4.1.1 (HAB 6) Ph. Eur. 4.1.2 (Ph. Franç.)	Ag ₃ Sb: 6.7-8.1 % Ag, 2.2-2.8 % Sb in D1	PDE	3.3 µg Ag/kg/day → 9.9 µg Ag/day (neonate) 24 µg Sb/kg/day → 72 µg Sb/day (neonate)	ICH guideline Q3D on elemental impurities (EMA/CHMP/ICH/353369/2013)	10 g D1 = 810 mg Ag and 280 mg Sb → 10 g D6 = 8.1 µg Ag and 2.8 µg Sb	D6	Derivation of PDE silver: PDE is con- sistent with the RfD (reference dose) of 5 µg Ag/kg/day (US EPA, 2003); LOAEL 20 mg Ag/kg divided by UF (F1-F5 = 12 x 10 x 5 x 1 x 10 = 6000) → 0.0033 mg Ag/kg/d x 3 kg bw neonate → 0.0099 mg Ag/d = 9.9 µg Ag/d Derivation of PDE antimony: NOAEL 6000 µg Sb/kg/d divided by UF (F1- F5 = 5 x 10 x 5 x 1 x 1) = 24 µg Sb/kg/d x 3 kg bw neonate = 72 µg Sb/d Conclusive remark: The PDE of silver is more conserva- tive and thus the relevant one for FSD assessment.
Lithium carbonicum Li₂CO₃ HAB See Lithium carbonicum (Ph. Franç.)	Ph. Eur. 4.1.1 (HAB 6)	Li ₂ CO ₃ : 9.4-10.6 % in D1 Mr 73.9 Relative content Li in stock = 18.79 %	PDE	11.2 µg Li/kg/day → 33.6 µg Li/day (neonate)	ICH guideline Q3D on elemental impurities (EMA/CHMP/ICH/353369/2013)	10 g D1 = 1060 mg Li ₂ CO ₃ = 199.17 mg Li → 10 g D5 = 19.92 µg Li	D5	Derivation of PDE lithium: POD = lowest human single oral dose of 300 mg Li-carbonate equiv. to 56 mg Li, representing one-third of the recommended daily adult dose (authorized medicinal product); LHRD/100-approach 56 mg/100 = 560 µg Li/day (50 kg) = 11.2 mg Li/kg/day = 33.6 µg Li/day (neonate) (UF = F1-F5 = 1 x 10 x 1 x 1 x 10; F5 = 10 due to LOAEL hum)

1	2	3	4	5	6	7	8	9
Stock*/raw/star ting material**	Method of Preparation	Toxic component concentration	Basis for FSD	Acceptable amount	Reference	Calculation method	FSD	Remarks
Lithium carbonicum Li₂CO₃ Ph. Franç.	Ph. Eur. 4.1.2 (Ph. Franç.)	Li ₂ CO ₃ : 98.5-100.5 % in stock Mr 73.9 Relative content Li in stock = 18.79 %	PDE	11.2 µg Li/kg/day → 33.6 µg Li/day (neonate)	ICH guideline Q3D on elemental impurities (EMA/CHMP/ICH/353369/2013)	10 g D1 = 1005 mg Li ₂ CO ₃ = 188.84 mg Li → 10 g D5 = 18.88 µg Li	D5	Derivation of PDE lithium: POD = lowest human single oral dose of 300 mg Li-carbonate equiv. to 56 mg Li, representing one-third of the recommended daily adult dose (authorized medicinal product); LHRD/100-approach 56 mg/100 = 560 µg Li/day (50 kg) = 11.2 mg Li/kg/day = 33.6 µg Li/day (neonate) (UF = F1-F5 = 1 x 10 x 1 x 1 x 10; F5 = 10 due to LOAEL hum)
Lithium citricum C₆H₅Li₃O₇ HAB	Ph. Eur. 4.1.1 (HAB 6) Ph. Eur. 4.1.2 (Ph. Franç.)	C ₆ H ₅ Li ₃ O ₇ : 6.8-8.1 % in D1 Mr 282.0 Relative content Li in stock = 7.38 %	PDE	11.2 µg Li/kg/day → 33.6 µg Li/day (neonate)	ICH guideline Q3D on elemental impurities (EMA/CHMP/ICH/353369/2013)	10 g D1 = 810 mg C ₆ H ₅ Li ₃ O ₇ = 59.78 mg Li → 10 g D5 = 5.98 µg Li	D5	Derivation of PDE lithium: POD = human single oral dose of 300 mg Li- carbonate equiv. to 56 mg Li, repre- senting one-third of the recom- mended daily adult dose (author- ized medicinal product); LHRD/100- approach 56 mg/100 = 560 µg Li/day (50 kg) = 11.2 mg Li/kg/day = 33.6 µg Li/day (neonate) (UF = F1-F5 = 1 x 10 x 1 x 1 x 10; F5 = 10 due to LOAEL hum)
Malachite Cu(OH)₂ · CuCO₃ HAB	Ph. Eur. 4.1.1 (HAB 6) Ph. Eur. 4.1.2 (Ph. Franç.)	Cu(OH) ₂ · CuCO ₃ : 9.0-10.5 % in D1 Mr 221.1 Relative content Cu in stock = 57.48 %	mean in- takes per day ade- quate for the majori- ty of infants of the first half-year of life	300 µg Cu/day (neonate)	Scientific Opinion on nutrient requirements and dietary intakes of infants and young children in the European Union, EFSA Journal 2013;11(10):3408	10 g D1 = 1050 mg Cu(OH) ₂ · CuCO ₃ = 603.54 mg Cu → 10 g D5 = 60.35 µg Cu	D5	

1	2	3	4	5	6	7	8	9
Stock*/raw/star ting material**	Method of Preparation	Toxic component concentration	Basis for FSD	Acceptable amount	Reference	Calculation method	FSD	Remarks
Minium Pb₃O₄ HAB	Ph. Eur. 4.1.1 (HAB 6) Ph. Eur. 4.1.2 (Ph. Franç.)	Pb ₃ O ₄ : 9.3-10.5 % in D1 Mr 686 Relative content Pb in stock = 90.61 %	PDE	5 µg Pb/day (neonate)	ICH guideline Q3D on elemental impurities (EMA/CHMP/ICH/353369/2013)	10 g D1 = 1050 mg Pb ₃ O ₄ = 951.41 mg Pb → 10 g D7 = 0.95 µg Pb	D7	Derivation of PDE lead: Oral intake of 5 µg Pb/day translates into a blood level of 1-2 µg Pb/dL estab- lished from epidemiological studies for children age 0-7 years (0-82 months) Applicable to newborns, hence NO further weight adjustment to PDE ICH Q3D necessary.
Natrium tetrach- loroauratum Na[AuCl₄] · 2 H₂O HAB/Ph. Eur.	Ph. Eur. 3.1.1 (HAB 5a) Ph. Eur. 4.1.2 (Ph. Franç.)	Na[AuCl ₄] · 2 H ₂ O: 9.5-10.5 % in D1 Mr 397.8 Relative content Au in stock = 49.52 %	PDE	2.7 µg Au/kg/day → 8.00 µg Au/day (neonate)	ICH guideline Q3D on elemental impurities (EMA/CHMP/ICH/353369/2013)	10 g D1 = 1050 mg Na[AuCl ₄] · 2 H ₂ O = 519.96 mg Au → 10 g D6 = 5.19 µg Au	D6	Derivation of PDE gold: LOAEL 32.2 mg Au/kg divided by UF (F1-F5 = 12 x 10 x 10 x 1 x 10) → 0.0027 mg Au/kg/d x 3 kg bw neonate → 0.008 mg Au/d = 8.00 µg Au/d French homeopathic traditional name: “Aurum muriaticum natronatum” .
Olivenite Cu₂(OH)AsO₄ HAB	Ph. Eur. 4.1.1 (HAB 6) Ph. Eur. 4.1.2 (Ph. Franç.)	Cu ₂ (OH)AsO ₄ : 8.1- 10.5 % in D1 Mr 283.0 Relative content 26.47 % As and 44.91 % Cu in stock	PDE mean in- takes per day ade- quate for the majori- ty of infants of the first half-year of life	0.3 µg As/kg/day → 0.9 µg As/day (neonate) 300 µg Cu/day (neonate)	ICH guideline Q3D on elemental impurities (EMA/CHMP/ICH/353369/2013) Scientific Opinion on nutrient requirements and dietary intakes of infants and young children in the European Union, EFSA Journal 2013;11(10):3408	10 g D1 = 1050 mg Cu ₂ (OH)AsO ₄ = 277.94 mg As and 471.55 mg Cu → 10 g D7 = 0.278 µg As and 0.472 µg Cu	D7	Derivation of PDE arsenic: MRL = 0.0003 mg/kg/d x 3 kg bw neonate → 0.9 µg As/d (no UF). Conclusive remark: The PDE of arsenic is more con- servative and thus the relevant one for FSD assessment.

1	2	3	4	5	6	7	8	9
Stock*/raw/starting material**	Method of Preparation	Toxic component concentration	Basis for FSD	Acceptable amount	Reference	Calculation method	FSD	Remarks
Platinum metallicum Pt HAB	Ph. Eur. 4.1.1 (HAB 6) Ph. Eur. 4.1.2 (Ph. Franç.)	Pt: 0.93-1.06 % in D2	PDE	2.16 µg Pt/kg/day → 6.48 µg Pt/day (neonate)	ICH guideline Q3D on elemental impurities (EMA/CHMP/ICH/353369/2013)	10 g D2 = 106 mg Pt → 10 g D7 = 1.06 µg Pt	D7	Derivation of PDE Platinum: BMDL ₁₀ 1.08 mg Pt/kg/day divided by UF (F1-F5 = 5 x 10 x 10 x 1 x 1) → 0.00216 mg Pt/kg/d x 3 kg bw neonate → 0.00648 mg Pt/d = 6.48 µg Pt/d French homeopathic traditional name: " Platina ".
Plumbum aceticum C₄H₆O₄Pb · 3H₂O HAB	Ph. Eur. 4.1.1 (HAB 6) Ph. Eur. 4.1.2 (Ph. Franç.)	C ₄ H ₆ O ₄ Pb · 3H ₂ O: 9.4-10.8 % in D1 Mr 379.3 Relative content Pb in stock = 54.63 %	PDE	5 µg Pb/day (neonate)	ICH guideline Q3D on elemental impurities (EMA/CHMP/ICH/353369/2013)	10 g D1 = 1080 mg C ₄ H ₆ O ₄ Pb · 3H ₂ O = 590 mg Pb → 10 g D7 = 0.59 µg Pb	D7	Derivation of PDE lead: Oral intake of 5 µg Pb/day translates into a blood level of 1-2 µg Pb/dL established from epidemiological studies for children age 0-7 years (0-82 months) Applicable to newborns, hence NO further weight adjustment to PDE ICH Q3D necessary.
Pyromorphite HAB	Ph. Eur. 4.1.1 (HAB 6) Ph. Eur. 4.1.2 (Ph. Franç.)	Pb: 6.8-8.4 % in D1	PDE	5 µg Pb/day (neonate)	ICH guideline Q3D on elemental impurities (EMA/CHMP/ICH/353369/2013)	10 g D1 = 840 mg Pb → 10 g D7 = 0.84 µg Pb	D7	Derivation of PDE lead: Oral intake of 5 µg Pb/day translates into a blood level of 1-2 µg Pb/dL established from epidemiological studies for children age 0-7 years (0-82 months) Applicable to newborns, hence NO further weight adjustment to PDE ICH Q3D necessary.

1	2	3	4	5	6	7	8	9
Stock*/raw/star ting material**	Method of Preparation	Toxic component concentration	Basis for FSD	Acceptable amount	Reference	Calculation method	FSD	Remarks
Scorodite Fe³⁺[AsO₄] · 2H₂O HAB	Ph. Eur. 4.1.1 (HAB 6) Ph. Eur. 4.1.2 (Ph. Franç.)	As: 2.9-3.7 % in D1	PDE	0.3 µg As/kg/day → 0.9 µg As/day (neonate)	ICH guideline Q3D on elemental impurities (EMA/CHMP/ICH/353369/2013)	10 g D1 = 370 mg As → 10 g D7 = 0.37 µg As	D7	Derivation of PDE arsenic: MRL = 0.0003 mg As/kg/d x 3 kg bw neo- nate → 0.9 µg As/d (no UF)
Selenium Se HAB	Ph. Eur. 4.1.1 (HAB 6) Ph. Eur. 4.1.2 (Ph. Franç.)	Se: 9.3-10.6 % in D1	mean in- takes per day ade- quate for the majori- ty of infants of the first half-year of life	12.5 µg Se/day (neonate)	Scientific Opinion on nutrient requirements and dietary intakes of infants and young children in the European Union, EFSA Journal 2013;11(10):3408	10 g D1 = 1060 mg Se → 10 g D6 = 10.6 µg Se	D6	
Stannum metallicum Sn HAB	Ph. Eur. 4.1.1 (HAB 6) Ph. Eur. 4.1.2 (Ph. Franç.)	Sn: 9.4-10.6 % in D1	PDE	128 µg Sn/kg/day → 384 µg Sn/day (neonate)	ICH guideline Q3D on elemental impurities (EMA/CHMP/ICH/353369/2013)	10 g D1 = 1060 mg Sn → 10 g D5 = 106 µg Sn	D5	Derivation of PDE tin: NOAEL 32 mg Sn/kg divided by UF (F1-F5 = 5 x 10 x 5 x 1 x 1) → 0.128 mg Sn/kg/d x 3 kg bw neonate → 0.384 mg Sn/d = 384 µg Sn/d

1	2	3	4	5	6	7	8	9
Stock*/raw/star ting material**	Method of Preparation	Toxic component concentration	Basis for FSD	Acceptable amount	Reference	Calculation method	FSD	Remarks
Stibium arsenicum Sb₂O₅ As₂O₃ HAB	Ph. Eur. 4.1.1 (HAB 6) Ph. Eur. 4.1.2 (Ph. Franç.)	Mixture of Sb ₂ O ₅ (Mr 323.5) and As ₂ O ₃ (Mr 197.8): 4.7-5.4 % As ₂ O ₃ and 4.7-5.4 % Sb ₂ O ₅ in D1 Relative content 75.76 % As in As ₂ O ₃ and 75.28 % Sb in Sb ₂ O ₅	PDE	0.3 µg As/kg/day → 0.9 µg As/day (neonate) 24 µg Sb/kg/day → 72 µg Sb/day (neonate)	ICH guideline Q3D on elemental impurities (EMA/CHMP/ICH/353369/2013)	10 g D1 = 540 mg As ₂ O ₃ = 409.1 mg As 540 mg Sb ₂ O ₅ = 406.5 mg Sb → 10 g D7 = 0.409 µg As and 0.406 µg Sb	D7	Derivation of PDE arsenic: MRL = 0.0003 mg As/kg/d x 3 kg bw neo- nate → 0.9 µg As/d (no UF). Derivation of PDE antimony: NOAEL 6000 µg Sb/kg/d divided by UF (F1- F5 = 5 x 10 x 5 x 1 x 1) = 24 µg Sb/kg/d x 3 kg bw neonate = 72 µg Sb/d Conclusive remark: The PDE of arsenic is more con- servative and thus the relevant one for FSD assessment. French homeopathic traditional name: “Antimonium arsenicosum” .
Stibium metallicum Sb HAB	Ph. Eur. 4.1.1 (HAB 6) Ph. Eur. 4.1.2 (Ph. Franç.)	Sb: 9.4-10.6 % in D1	PDE	24 µg Sb/kg/day → 72 µg Sb/day (neonate)	ICH guideline Q3D on elemental impurities (EMA/CHMP/ICH/353369/2013)	10 g D1 = 1060 mg Sb → 10 g D6 = 10.6 µg Sb	D6	Derivation of PDE antimony: NOAEL 6000 µg Sb/kg/d divided by UF (F1- F5 = 5 x 10 x 5 x 1 x 1) = 24 µg Sb/kg/d x 3 kg bw neonate = 72 µg Sb/d French homeopathic traditional name: “Antimonium metallicum” .

1	2	3	4	5	6	7	8	9
Stock*/raw/star ting material**	Method of Preparation	Toxic component concentration	Basis for FSD	Acceptable amount	Reference	Calculation method	FSD	Remarks
Stibium sulfura- tum auranti- acum HAB	Ph. Eur. 4.1.1 (HAB 6) Ph. Eur. 4.1.2 (Ph. Franç.)	Mixture of Sb ₂ S ₅ and S: 5.2-6.8 % Sb in D1	PDE	24 µg Sb/kg/day → 72 µg Sb/day (neonate)	ICH guideline Q3D on elemental impurities (EMA/CHMP/ICH/353369/2013)	10 g D1 = 680 mg Sb → 10 g D5 = 68 µg Sb	D5	Derivation of PDE antimony: NOAEL 6000 µg Sb/kg/d divided by UF (F1- F5 = 5 x 10 x 5 x 1 x 1) = 24 µg Sb/kg/d x 3 kg bw neonate = 72 µg Sb/d French homeopathic traditional name: “ Antimonium sulfuratum aureum ”.
Stibium sulfura- tum nigrum Sb₂S₃ HAB See Antimonite (HAB) and Antimonium crudum. (Ph. Franç.)	Ph. Eur. 4.1.1 (HAB 6)	Sb ₂ S ₃ : 9.3-10.6 % in D1 Mr 339.7 Relative content Sb in stock = 71.69 %	PDE	24 µg Sb/kg/day → 72 µg Sb/day (neonate)	ICH guideline Q3D on elemental impurities (EMA/CHMP/ICH/353369/2013)	10 g D1 = 1060 mg Sb ₂ S ₃ = 759.91 mg Sb → 10 g D6 = 7.59 µg Sb	D6	Derivation of PDE antimony: NOAEL 6000 µg Sb/kg/d divided by UF (F1- F5 = 5 x 10 x 5 x 1 x 1) = 24 µg Sb/kg/d x 3 kg bw neonate = 72 µg Sb/d
Thallium aceti- cum oxydulatum C₂H₃O₂Tl HAB	Ph. Eur. 4.1.1 (HAB 6) Ph. Eur. 4.1.2 (Ph. Franç.)	C ₂ H ₃ O ₂ Tl: 9.3-10.6 % in D1 Mr 263.4 Relative content Tl in stock = 77.59 %	PDE	0.16 µg Tl/kg/day → 0.48 µg Tl/day (neonate)	ICH guideline Q3D on elemental impurities (EMA/CHMP/ICH/353369/2013)	10 g D1 = 1060 mg C ₂ H ₃ O ₂ Tl = 822.45 mg Tl → 10 g D8 = 0.082 µg Tl	D8	Derivation of PDE thallium: LOAEL 0.04 mg Tl/kg divided by UF (F1-F5 = 5 x 10 x 5 x 1 x 1) → 0.00016 mg Tl/kg/d x 3 kg bw neonate → 0.00048 mg Tl/d = 0.48 µg Tl/d

1	2	3	4	5	6	7	8	9
Stock*/raw/star ting material**	Method of Preparation	Toxic component concentration	Basis for FSD	Acceptable amount	Reference	Calculation method	FSD	Remarks
Thallium sulfuricum Tl_2SO_4 HAB	Ph. Eur. 4.1.1 (HAB 6) Ph. Eur. 4.1.2 (Ph. Franç.)	Tl_2SO_4 : 9.3-10.6 % in D1 Mr 504.8 Relative content Tl in stock = 80.98 %	PDE	0.16 µg Tl/kg/day → 0.48 µg Tl/day (neonate)	ICH guideline Q3D on elemental impurities (EMA/CHMP/ICH/353369/2013)	10 g D1 = 1060 mg Tl_2SO_4 = 858.39 mg Tl → 10 g D8 = 0.086 µg Tl	D8	Derivation of PDE thallium: LOAEL 0.04 mg Tl/kg divided by UF (F1-F5 = 5 x 10 x 5 x 1 x 1) → 0.00016 mg Tl/kg/d x 3 kg bw neonate → 0.00048 mg Tl/d = 0.48 µg Tl/d

*As defined in the Ph. Eur.

**For information related to the identity, refer to “Guidance on module 3 of the homeopathic medicinal product dossier”