

	COOMET Program	COOMET P5/2022
	Programme of Joint CRM Production within COOMET	

**PROGRAMME
OF JOINT CRM PRODUCTION
WITHIN COOMET for 2022-2024
(PROJECT No. 186/RU-a/99)**

As of 26.10.2022

Ind .NN	Country, CRM producer, contact person	Project	Certified characteristics	Planned values (range) of certified characteristics	Period of CRM develop- ment	Notes
1	2	3	4	5	6	7
<i>Part 1 (projects for which the forms of Proposed (P) or Agreed (A) Projects are prepared)</i>						
1.	<p>Russia UNIIM – Affiliated Branch of the D.I. Mendeleyev Institute for Metrology 4, Krasnoarmeyskaya Str. Ekaterinburg, 620075 Egor P, Sobina Brach Director</p> <p>Contact Person: Olga N. Kremleva Head of Department Tel.: (343) 350-60-68 Fax.: (343) 350-24-68 E-mail: kremleva@uniim.ru E-mail: intermetron@uniim.ru</p>	<p>Pilot comparisons of CRM for composition of ferric ion solution</p> <p><u>700/RU-a/16 (A)</u></p>	<p>It is proposed to conduct pilot comparisons of CRM for composition of ferric iron (III) solution, intended for verification, calibration and graduation of measurement instruments, certification of measurement procedures, accuracy control of measurement results and other metrological activities and control. The comparisons are relevant due to the need of comparing the degree of equivalence of reference materials to be compared for the demonstration of the capability to obtain compatible measurement results in testing laboratories of COOMET member-countries and other countries, which use these reference materials; establishing the possibility of mutual replacement of reference materials to be compared in their use in accordance with their purpose; the implementation of sub-clause 5.12 of ISO Guide 34:2009 by the producer of reference materials. The pilot NMI (UNIIM) plans and performs comparisons with participation (by decision of the pilot NMI) of organizations of COOMET member-countries, following the rules of COOMET and having technical competence for each particular case.</p>		2022-2023	<p>Participants:</p> <p>1. Kazakhstan - KazinMetr</p> <p>2. Russia - UNIIM – Affiliated Branch of the D.I. Mendeleyev Institute for Metrology</p>

1	2	3	4	5	6	7
2.	<p>Russia UNIIM – Affiliated Branch of the D.I. Mendeleyev Institute for Metrology 4, Krasnoarmeyskaya Str. Ekaterinburg, 620075 Egor P. Sobina Brach Director</p> <p>Contact Person: Olga N. Kremleva Head of Department Tel.: (343) 350-60-68 Fax.: (343) 350-24-68 E-mail: kremleva@uniim.ru E-mail: intermetron@uniim.ru</p>	<p>Pilot comparisons of CRM for composition of copper ion solution</p> <p><u>701/RU-a/16 (A)</u></p>	<p>It is proposed to conduct pilot comparisons of CRM for composition of copper ion solution, intended for verification, calibration and graduation of measurement instruments, certification of measurement procedures, accuracy control of measurement results and other metrological activities and control. The comparisons are relevant due to the need of comparing the degree of equivalence of reference materials to be compared for the demonstration of the capability to obtain compatible measurement results in testing laboratories of COOMET member-countries and other countries, which use these reference materials; establishing the possibility of mutual replacement of reference materials to be compared in their use in accordance with their purpose; the implementation of sub-clause 5.12 of ISO Guide 34:2009 by the producer of reference materials. The pilot NMI (UNIIM) plans and performs comparisons with participation (by decision of the pilot NMI) of organizations of COOMET member-countries, following the rules of COOMET and having technical competence for each particular case.</p>		2022-2023	<p>Participants:</p> <p>1. Kazakhstan - KazinMetr</p> <p>2. Russia - UNIIM – Affiliated Branch of the D.I. Mendeleyev Institute for Metrology</p>

1	2	3	4	5	6	7
3.	<p>Russia JSC «West-Siberian Testing Centre» (JSC «Zsicentre») 9 Ordzhonikidze Str., Kemerovo region, Novokuznetsk, 654006 General Director Natalya V. Zhuravleva tel.: (8-3843) 74-57-22 fax: (8-3843) 74-57-22 e-mail: main@zsic.ru</p> <p>Contact person: Svetlana N. Shushunova Head of Quality Control Department tel./fax: (8-3843) 74-57-22 e-mail: shushunova_sn@zsic.ru</p>	<p>Conducting comparison tests of certified characteristics of GSO 10894-2017 for composition and properties of coal, OS rank (SO-42)</p> <p><u>815/RU-a/20 (A)</u></p>	<p>Ash content (A^d) Mass fraction of total sulphur (S_t^d) Absolute density (d_r^d) Volatile-matter yield (V^d)</p> <p><i>Note: certified characteristics are calculated based on the dry condition of the fuel according to GOST 27313-2015</i></p>	<p>16,3 % 0,26 % 1,47 g/cm³ 18,1 %</p>	2023	<p>Participants: 1. Latvia 2. Russia 3. Ukraine</p>
4.		<p>Conducting comparison tests of certified characteristics of GSO 10895-2017 for composition and properties of coal, G rank (SO-43)</p> <p><u>817/RU-a/20 (A)</u></p>	<p>Ash content (A^d) Mass fraction of total sulphur (S_t^d) Absolute density (d_r^d) Mass fraction of phosphor (P^d)</p> <p><i>Note: certified characteristics are calculated based on the dry condition of the fuel according to GOST 27313-2015</i></p>	<p>11,9 % 0,32 % 1,45 g/cm³ 0,045 %</p>	2023	<p>Participants: 1. Latvia 2. Russia 3. Ukraine</p>

1	2	3	4	5	6	7
5.	<p>Russia JSC «West-Siberian Testing Centre» (JSC «Zsicentre») 9 Ordzhonikidze Str., Kemerovo region, Novokuznetsk, 654006 General Director Natalya V. Zhuravleva tel.: (8-3843) 74-57-22 fax: (8-3843) 74-57-22 e-mail: main@zsic.ru</p> <p>Contact person: Svetlana N. Shushunova Head of Quality Control Department tel./fax: (8-3843) 74-57-22 e-mail: shushunova_sn@zsic.ru</p>	<p>Conducting comparison tests of certified characteristics of GSO 11039-2018 for composition of polymetallic ore of the Quartz Hill deposit (SO-45)</p> <p><u>816/RU-a/20 (A)</u></p>	<p>Mass fraction of components:</p> <p>lead 3,45 zinc 6,31 copper 0,89 barium oxide 19,31 arsenic 0,047 cadmium 0,058 cobalt 0,00082 nickel 0,0011 titanium oxide 0,060 aluminium oxide 2,01 silicon dioxide 45,84 iron oxide (tot.) 0,94 total sulphur 8,28 manganese oxide 0,037 calcium oxide 1,57 magnesium oxide 0,64 sodium oxide 0,056 potassium oxide 0,52 gold 2,52 mln⁻¹ silver 234 mln⁻¹</p>	<p>Mass fraction, %:</p>	<p>2023</p>	<p>Participants: 1. Kazakhstan 2. Russia</p>

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6.	<p>Russia Federal State Budgetary Enterprise of Science A.P. Vinogradov Geochemistry Institute Siberian Branch of Russian Academy of Sciences 1a Favorsky str. Irkutsk, 664033</p> <p>Contact Person: Dr. Irina E. Vasilieva Chief Researcher of Atomic Emission Analysis and Reference Material Group E-mail: vasira@igc.irk.ru Tel./fax: +7 (3952) 42 58 37 Mob.: +7 964 226 4811</p>	<p>Development of CRM for composition of Siberian pine needles (HSS-1) (<i>Pinus sylvestris</i>)</p> <p><u>856/RU-a/22 (A)</u></p>	Mass fraction of elements, %		2023	<p>Participants: 1. Belarus BelGIM 2. Germany Sympatec GmbH 3. Kazakhstan The company "SOL instruments»</p>
			Al	0,01 – 0,25		
			C	35 – 50		
			Ca	0,1 – 0,6		
			Cl	0,04 – 0,6		
			H	3 – 7		
			K	0,2 – 0,6		
			Mg	0,05 – 0,25		
			N	0,5 – 2		
			Na	0,003 – 0,015		
			O	30 – 50		
			P	0,07 – 0,25		
			S	0,07 – 0,3		
			Si	0,02 – 0,3		
			Mass fraction of elements, mg/kg			
			Ag	< 0,01		
			As	< 1,0		
			Au	< 0,05		
			B	10 – 50		
			Ba	1 – 20		
			Be	< 1,0		
			Bi	< 1,0		
			Br	1 – 50		
			Cd	< 0,1		
			Ce	< 1,0		
			Co	0,05 – 1,5		
			Cr	1 – 7		
			Cs	< 1,0		
			Cu	1 – 10		
			F	10 – 500		
Fe	150 – 800					

1	2	3	4	5	6	7
			Mass fraction of elements, mg/kg			
			Hg	< 1,0		
			I	0,3 – 0,5		
			La	< 1,0		
			Li	0,1 – 0,5		
			Mn	100 – 500		
			Mo	< 0,5		
			Nb	< 0,1		
			Nd	< 1,0		
			Ni	0,5 – 5		
			Pb	< 1,0		
			Pd	< 0,01		
			Pt	< 0,01		
			Rb	1 – 30		
			Sb	0,1 – 3		
			Sc	< 0,5		
			Se	< 1,0		
			Sn	< 1,0		
			Sr	3 – 25		
			Ti	3 – 15		
			V	0,1 – 2		
			W	< 1,0		
			Y	< 1,0		
			Yb	< 1,0		
			Zn	20 – 100		
			Zr	< 1,0		

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7.	<p>Russia UNIIM – Affiliated Branch of the D.I. Mendeleyev Institute for Metrology 4, Krasnoarmeyskaya Str. Ekaterinburg, 620075 Egor P, Sobina Brach Director</p> <p>Contact Person: Olga N. Kremleva Head of Department Tel.: (343) 350-60-68 Fax.: (343) 350-24-68 E-mail: kremleva@uniim.ru E-mail: intermetron@uniim.ru</p>	<p>Recognition of included in the KCDB CRM of sorption properties of nanoporous carbon (C SO UNIIM) (GSO 10735-2015) as COOMET CRM</p> <p>within the project 858/RU-a/22 (A)</p>	<p>Specific surface area, m²/g</p> <p>Specific pore volume, cm³/g</p> <p>Average pore diameter, µm</p> <p>Specific nitrogen adsorption at liquid nitrogen temperature in the range of relative pressures P/Po from 0,5·10⁻³ to 0,992, mol/kg</p>	<p>30-60</p> <p>0,1-0,5</p> <p>10-20</p> <p>0,05-10,0</p>	<p>2022</p>	<p>Information about the possibility of recognition was received from: Armenia Azerbaijan Belarus Kazakhstan Slovakia</p> <p>Participation of all COOMET member-countries is desirable</p>
8.	<p>Russia UNIIM – Affiliated Branch of the D.I. Mendeleyev Institute for Metrology 4, Krasnoarmeyskaya Str. Ekaterinburg, 620075 Egor P, Sobina Brach Director</p> <p>Contact Person: Olga N. Kremleva Head of Department Tel.: (343) 350-60-68 Fax.: (343) 350-24-68 E-mail: kremleva@uniim.ru E-mail: intermetron@uniim.ru</p>	<p>Recognition of included in the KCDB CRM of composition of sodium chloride of 1st range (GSO 4391-88), as COOMET CRM</p> <p>within the project 858/RU-a/22 (A)</p>	<p>Mass fraction of sodium chloride, %</p>	<p>99,900-100,000</p>	<p>2022</p>	<p>Information about the possibility of recognition was received from: Armenia Azerbaijan Belarus Kazakhstan Slovakia</p> <p>Participation of all COOMET member-countries is desirable</p>

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9.	<p>Russia UNIIM – Affiliated Branch of the D.I. Mendeleyev Institute for Metrology 4, Krasnoarmeyskaya Str. Ekaterinburg, 620075 Egor P, Sobina Brach Director</p> <p>Contact Person: Olga N. Kremleva Head of Department Tel.: (343) 350-60-68 Fax.: (343) 350-24-68 E-mail: kremleva@uniim.ru E-mail: intermetron@uniim.ru</p>	<p>Recognition of included in the KCDB CRM of composition of glycine (SG SO UNIIM) (GSO 10272-2013), as COOMET CRM</p> <p>within the project <u>858/RU-a/22 (A)</u></p>	<p>Nitrogen mass fraction, %</p> <p>Total mass fraction of basic material, %</p>	<p>18,47-18,66 99,0-100,0</p>	<p>2022</p>	<p>Information about the possibility of recognition was received from:</p> <p>Armenia Azerbaijan Belarus Kazakhstan Slovakia</p> <p>Participation of all COOMET member-countries is desirable</p>
10.	<p>Russia UNIIM – Affiliated Branch of the D.I. Mendeleyev Institute for Metrology 4, Krasnoarmeyskaya Str. Ekaterinburg, 620075 Egor P, Sobina Brach Director</p> <p>Contact Person: Olga N. Kremleva Head of Department Tel.: (343) 350-60-68 Fax.: (343) 350-24-68 E-mail: kremleva@uniim.ru E-mail: intermetron@uniim.ru</p>	<p>Recognition of included in KCDB CRM of sulfamic acid composition (NH₂SO₃H SO UNIIM) (GSO 10498-2014), as COOMET CRM</p> <p>within the project <u>858/RU-a/22 (A)</u></p>	<p>Sulfamic acid mass fraction, %</p>	<p>99,900-100,000</p>	<p>2022</p>	<p>Information about the possibility of recognition was received from:</p> <p>Armenia Azerbaijan Belarus Kazakhstan Slovakia</p> <p>Participation of all COOMET member-countries is desirable</p>

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11.	<p>Russia UNIIM – Affiliated Branch of the D.I. Mendeleyev Institute for Metrology 4, Krasnoarmeyskaya Str. Ekaterinburg, 620075 Egor P, Sobina Brach Director</p> <p>Contact Person: Olga N. Kremleva Head of Department Tel.: (343) 350-60-68 Fax.: (343) 350-24-68 E-mail: kremleva@uniim.ru E-mail: intermetron@uniim.ru</p>	<p>Recognition of included in KCDB CRM of nanoporous aluminium oxide (Al₂O₃ SO UNIIM) (GSO 10449-2014) as COOMET CRM</p> <p>within the project <u>858/RU-a/22 (A)</u></p>	<p>Specific surface area (BET) <i>S</i>, m²/g Specific pore volume <i>V</i>, cm³/g Average pore diameter 4<i>V</i>/<i>S</i>, μm Specific adsorption of nitrogen <i>A</i> at P/P₀=0,10, mol/kg Specific adsorption of nitrogen <i>A</i> at P / Po=0,20, mol/kg Specific adsorption of nitrogen <i>A</i> at P / Po=0,30, mol/kg Specific adsorption of nitrogen <i>A</i> at P / Po=0,99, mol/kg</p>	<p>100-300 0,2-1,0 5-20 1,5-2,5 2,0-3,0 2,5-4,0 15-25</p>	<p>2022</p>	<p>Information about the possibility of recognition was received from:</p> <p>Armenia Azerbaijan Belarus Kazakhstan Slovakia</p> <p>Participation of all COOMET member-countries is desirable</p>
12.	<p>Russia UNIIM – Affiliated Branch of the D.I. Mendeleyev Institute for Metrology 4, Krasnoarmeyskaya Str. Ekaterinburg, 620075 Egor P, Sobina Brach Director</p> <p>Contact Person: Olga N. Kremleva Head of Department Tel.: (343) 350-60-68 Fax.: (343) 350-24-68 E-mail: kremleva@uniim.ru E-mail: intermetron@uniim.ru</p>	<p>Recognition of included in the KCDB CRM of potassium chloride composition (GSO 9969-2011), as COOMET CRM</p> <p>within the project <u>858/RU-a/22 (A)</u></p>	<p>Mass fraction of potassium chloride, %</p>	<p>99,500-100,000</p>	<p>2022</p>	<p>Information about the possibility of recognition was received from:</p> <p>Armenia Azerbaijan Belarus Kazakhstan Slovakia</p> <p>Participation of all COOMET member-countries is desirable</p>

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13.	<p>Russia UNIIM – Affiliated Branch of the D.I. Mendeleyev Institute for Metrology 4, Krasnoarmeyskaya Str. Ekaterinburg, 620075 Egor P, Sobina Brach Director</p> <p>Contact Person: Olga N. Kremleva Head of Department Tel.: (343) 350-60-68 Fax.: (343) 350-24-68 E-mail: kremleva@uniim.ru E-mail: intermetron@uniim.ru</p>	<p>Recognition of included in the KCDB CRM of powder milk composition (ASM- 1) (GSO 9563- 2010), as COOMET CRM</p> <p>within the project <u>858/RU-a/22 (A)</u></p>	<p>Moisture mass fraction, %</p> <p>Nitrogen mass fraction, %</p> <p>Protein mass fraction, %</p>	<p>2,00 – 5,00</p> <p>1,00 – 7,00</p> <p>6,0 – 45,0</p>	2023-2024	Participation of all COOMET member-countries is desirable
14.	<p>Russia UNIIM – Affiliated Branch of the D.I. Mendeleyev Institute for Metrology 4, Krasnoarmeyskaya Str. Ekaterinburg, 620075 Egor P, Sobina Brach Director</p> <p>Contact Person: Olga N. Kremleva Head of Department Tel.: (343) 350-60-68 Fax.: (343) 350-24-68 E-mail: kremleva@uniim.ru E-mail: intermetron@uniim.ru</p>	<p>Recognition of included in the KCDB CRM of composition of grain and its processed products (GSO 9734-2010), as COOMET CRM</p> <p>within the project <u>858/RU-a/22 (A)</u></p>	<p>Nitrogen mass fraction*, %</p> <p><i>*values in dry basis</i></p> <p>Protein mass fraction*, %</p> <p><i>*values in dry basis</i></p> <p>Moisture mass fraction</p>	<p>1,0 – 2,5</p> <p>2,5 – 5,0</p> <p>5,0 – 8,0</p> <p>5,0 – 16,0</p> <p>16,0 – 31,0</p> <p>31,0 – 50,0</p> <p>7,0 – 18,0</p>	2023-2024	Participation of all COOMET member-countries is desirable

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15.	<p>Russia UNIIM – Affiliated Branch of the D.I. Mendeleyev Institute for Metrology 4, Krasnoarmeyskaya Str. Ekaterinburg, 620075 Egor P, Sobina Brach Director</p> <p>Contact Person: Olga N. Kremleva Head of Department Tel.: (343) 350-60-68 Fax.: (343) 350-24-68 E-mail: kremleva@uniim.ru E-mail: intermetron@uniim.ru</p>	<p>Recognition of included in the KCDB CRM of sorption properties of modified nanoporous silica gel (set NMS SO UNIIM) (GSO 9935-2011), as COOMET CRM</p> <p>within the project 858/RU-a/22 (A)</p>	<table><tr><td>Certified characteristics</td><td>CRM index</td><td>Planned values (range) of certified characteristi cs</td></tr><tr><td rowspan="4">Specific surface area (BET), m²/g</td><td>NMS-1</td><td>400 - 600</td></tr><tr><td>NMS-2</td><td>700 - 900</td></tr><tr><td>NMS-3</td><td>900 - 1100</td></tr><tr><td>NMS-4</td><td>1000 - 1600</td></tr><tr><td rowspan="4">Specific pore volume, cm³/g</td><td>NMS-1</td><td>0,2 - 0,4</td></tr><tr><td>NMS-2</td><td>0,7 - 0,9</td></tr><tr><td>NMS-3</td><td>0,8 - 1,0</td></tr><tr><td>NMS-4</td><td>0,9 - 2,0</td></tr><tr><td rowspan="4">The predominant diameter of the nanopores (calculated from the adsorption branch of the isotherm), μm</td><td>NMS-1</td><td>2 - 10</td></tr><tr><td>NMS-2</td><td>2 - 10</td></tr><tr><td>NMS-3</td><td>2 - 10</td></tr><tr><td>NMS-4</td><td>2 - 10</td></tr><tr><td rowspan="4">The predominant diameter of the nanopores (calculated from the desorption branch of the isotherm), μm</td><td>NMS-1</td><td>2 - 10</td></tr><tr><td>NMS-2</td><td>2 - 10</td></tr><tr><td>NMS-3</td><td>2 - 10</td></tr><tr><td>NMS-4</td><td>2 - 10</td></tr><tr><td rowspan="4">Average pore diameter, μm</td><td>NMS-1</td><td>2 - 10</td></tr><tr><td>NMS-2</td><td>2 - 10</td></tr><tr><td>NMS-3</td><td>2 - 10</td></tr><tr><td>NMS-4</td><td>2 - 10</td></tr><tr><td>Sorption capacity (for</td><td>NMS-1</td><td>100 - 300</td></tr></table>	Certified characteristics	CRM index	Planned values (range) of certified characteristi cs	Specific surface area (BET), m ² /g	NMS-1	400 - 600	NMS-2	700 - 900	NMS-3	900 - 1100	NMS-4	1000 - 1600	Specific pore volume, cm ³ /g	NMS-1	0,2 - 0,4	NMS-2	0,7 - 0,9	NMS-3	0,8 - 1,0	NMS-4	0,9 - 2,0	The predominant diameter of the nanopores (calculated from the adsorption branch of the isotherm), μm	NMS-1	2 - 10	NMS-2	2 - 10	NMS-3	2 - 10	NMS-4	2 - 10	The predominant diameter of the nanopores (calculated from the desorption branch of the isotherm), μm	NMS-1	2 - 10	NMS-2	2 - 10	NMS-3	2 - 10	NMS-4	2 - 10	Average pore diameter, μm	NMS-1	2 - 10	NMS-2	2 - 10	NMS-3	2 - 10	NMS-4	2 - 10	Sorption capacity (for	NMS-1	100 - 300	2023-2024	Participation of all COOMET member-countries is desirable
Certified characteristics	CRM index	Planned values (range) of certified characteristi cs																																																						
Specific surface area (BET), m ² /g	NMS-1	400 - 600																																																						
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	NMS-3	2 - 10																																																						
	NMS-4	2 - 10																																																						
Sorption capacity (for	NMS-1	100 - 300																																																						

1	2	3	4	5	6	7
			nitrogen at -196°C and the equilibrium nitrogen pressure $P/P_0=0,05$), $\text{cm}^3(\text{n.c.})/\text{g}$	NMS-2	100 - 300	
				NMS-3	100 - 300	
				NMS-4	100 - 300	
			Sorption capacity (for nitrogen at -196°C and the equilibrium nitrogen pressure $P/P_0=0,40$), $\text{cm}^3(\text{n.c.})/\text{g}$	NMS-1	150 - 600	
				NMS-2	150 - 600	
				NMS-3	150 - 600	
				NMS-4	150 - 600	
			Sorption capacity (for nitrogen at -196°C and the equilibrium nitrogen pressure $P/P_0=0,99$), $\text{cm}^3(\text{n.c.})/\text{g}$	NMS-1	300 - 1800	
				NMS-2	300 - 1800	
				NMS-3	300 - 1800	
				NMS-4	300 - 1800	

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16.	<p>Russia UNIIM – Affiliated Branch of the D.I. Mendeleyev Institute for Metrology 4, Krasnoarmeyskaya Str. Ekaterinburg, 620075 Egor P, Sobina Brach Director</p> <p>Contact Person: Olga N. Kremleva Head of Department Tel.: (343) 350-60-68 Fax.: (343) 350-24-68 E-mail: kremleva@uniim.ru E-mail: intermetron@uniim.ru</p>	<p>Recognition of included in the KCDB CRM of specific surface area of siliceous sand (QSiO₂) (GSO 10900-2017), as COOMET CRM</p> <p>within the project <u>858/RU-a/22 (A)</u></p>	Specific surface area, m ² /g	0,2 - 1,0	2023-2024	Participation of all COOMET member-countries is desirable
17.	<p>Russia UNIIM – Affiliated Branch of the D.I. Mendeleyev Institute for Metrology 4, Krasnoarmeyskaya Str. Ekaterinburg, 620075 Egor P, Sobina Brach Director</p> <p>Contact Person: Olga N. Kremleva Head of Department Tel.: (343) 350-60-68 Fax.: (343) 350-24-68 E-mail: kremleva@uniim.ru E-mail: intermetron@uniim.ru</p>	<p>Recognition of included in the KCDB CRM of sorption properties of nanoporous silicon oxide (15- SiO₂) (GSO 11131-2018), as COOMET CRM</p> <p>within the project <u>858/RU-a/22 (A)</u></p>	<p>Specific surface area (BET) (<i>S</i>), m²/g</p> <p>Specific pore volume (<i>V</i>), cm³/g</p> <p>Average pore diameter (4<i>V</i>/<i>S</i>), μm</p> <p>Specific nitrogen adsorption*, mol/kg</p> <p>*at liquid nitrogen temperature in the range of differential pressures P/P₀ from 0,014 to 0,999</p>	<p>200,0 - 400,0</p> <p>0,500 - 1,500</p> <p>10,00 - 20,00</p> <p>2,000 - 33,00</p>	2023-2024	Participation of all COOMET member-countries is desirable

1	2	3	4	5	6	7
18.	<p>Russia UNIIM – Affiliated Branch of the D.I. Mendeleyev Institute for Metrology 4, Krasnoarmeyskaya Str. Ekaterinburg, 620075 Egor P, Sobina Brach Director</p> <p>Contact Person: Olga N. Kremleva Head of Department Tel.: (343) 350-60-68 Fax.: (343) 350-24-68 E-mail: kremleva@uniim.ru E-mail: intermetron@uniim.ru</p>	<p>Recognition of included in the KCDB CRM of sorption properties of nanoporous silicon oxide (2,2- SiO₂) (GSO 11154-2018), as COOMET CRM</p> <p>within the project 858/RU-a/22 (A)</p>	<p>Specific surface area (BET) (S), m²/g</p> <p>Specific pore volume (V), cm³/g</p> <p>Average pore diameter ($4V/S$), μm</p> <p>Specific nitrogen adsorption*, mol/kg *at liquid nitrogen temperature in the range of differential pressures P/P₀ from 0,014 to 0,999</p>	<p>400,0 - 1000,0</p> <p>0,200 – 0,800</p> <p>1,00 - 10,00</p> <p>2,000 - 33,00</p>	2023-2024	Participation of all COOMET member-countries is desirable
19.	<p>Russia UNIIM – Affiliated Branch of the D.I. Mendeleyev Institute for Metrology 4, Krasnoarmeyskaya Str. Ekaterinburg, 620075 Egor P, Sobina Brach Director</p> <p>Contact Person: Olga N. Kremleva Head of Department Tel.: (343) 350-60-68 Fax.: (343) 350-24-68 E-mail: kremleva@uniim.ru E-mail: intermetron@uniim.ru</p>	<p>Recognition of included in the KCDB CRM of sorption properties of nanoporous silicon oxide (6- SiO₂) (GSO 11155-2018), as COOMET CRM</p> <p>within the project 858/RU-a/22 (A)</p>	<p>Specific surface area (BET) (S), m²/g</p> <p>Specific pore volume (V), cm³/g</p> <p>Average pore diameter ($4V/S$), μm</p> <p>Specific nitrogen adsorption*, mol/kg *at liquid nitrogen temperature in the range of differential pressures P/P₀ from 0,014 to 0,999</p>	<p>400,0 - 800,0</p> <p>0,500 – 1,500</p> <p>1,00 - 10,00</p> <p>2,000 - 33,00</p>	2023-2024	Participation of all COOMET member-countries is desirable

1	2	3	4	5	6	7	
20.	Russia UNIIM – Affiliated Branch of the D.I. Mendeleyev Institute for Metrology 4, Krasnoarmeyskaya Str. Ekaterinburg, 620075 Egor P, Sobina Brach Director Contact Person: Olga N. Kremleva Head of Department Tel.: (343) 350-60-68 Fax.: (343) 350-24-68 E-mail: kremleva@uniim.ru E-mail: intermetron@uniim.ru	Recognition of included in the KCDB CRM of composition of powdered milk products (set ASM- 2 SO UNIIM) (GSO 11086-2018/ GSO 11091-2018), as COOMET CRM within the project 858/RU-a/22 (A)	GSO 11086-2018			2023-2024	Participation of all COOMET member-countries is desirable
			CRM index	Certified charasteristics	Planned values (range) of certified characteristics, %		
			ASM-2-1	Moisture mass fraction	2,00 – 4,00 4,00 – 10,00		
				Nitrogen mass fraction	1,00 – 7,00		
				Protein mass fraction	6,0 – 45,0		
				Fat mass fraction	0,10 – 10,00		
			GSO 11087-2018				
			CRM index	Certified charasteristics	Planned values (range) of certified characteristics, %		
			ASM-2-2	Moisture mass fraction	2,00 – 4,00 4,00 – 10,00		
				Nitrogen mass fraction	1,00 – 7,00		
				Protein mass fraction	6,0 – 45,0		
				Fat mass fraction	20,00 – 45,00		

1	2	3	4	5	6	7																									
21.	Russia UNIIM – Affiliated Branch of the D.I. Mendeleyev Institute for Metrology 4, Krasnoarmeyskaya Str. Ekaterinburg, 620075 Egor P, Sobina Brach Director Contact Person: Olga N. Kremleva Head of Department Tel.: (343) 350-60-68 Fax.: (343) 350-24-68 E-mail: kremleva@uniim.ru E-mail: intermetron@uniim.ru	Recognition of included in the KCDB CRM of composition of dry grain porridge for infant food (set KS-1 SO UNIIM) (GSO 11144-2018/ GSO 11147-2018), as COOMET CRM within the project 858/RU-a/22 (A)	GSO 11144-2018 <table><tr><td>CRM index</td><td>Certified charasteristics</td><td>Planned values (range) of certified characteristics, %</td></tr><tr><td rowspan="4">KS-1-1</td><td>Moisture mass fraction</td><td>2,00 – 4,00 4,00 – 10,00</td></tr><tr><td>Nitrogen mass fraction</td><td>0,50 – 2,50</td></tr><tr><td>Protein mass fraction</td><td>3,00 – 16,00</td></tr><tr><td>Fat mass fraction</td><td>0,50 – 12,00</td></tr></table> GSO 11145-2018 <table><tr><td>CRM index</td><td>Certified charasteristics</td><td>Planned values (range) of certified characteristics, %</td></tr><tr><td rowspan="4">KS-1-2</td><td>Moisture mass fraction</td><td>2,00 – 4,00 4,00 – 10,00</td></tr><tr><td>Nitrogen mass fraction</td><td>0,50 – 2,50</td></tr><tr><td>Protein mass fraction</td><td>3,00 – 16,00</td></tr><tr><td>Fat mass fraction</td><td>0,50 – 12,00</td></tr></table>			CRM index	Certified charasteristics	Planned values (range) of certified characteristics, %	KS-1-1	Moisture mass fraction	2,00 – 4,00 4,00 – 10,00	Nitrogen mass fraction	0,50 – 2,50	Protein mass fraction	3,00 – 16,00	Fat mass fraction	0,50 – 12,00	CRM index	Certified charasteristics	Planned values (range) of certified characteristics, %	KS-1-2	Moisture mass fraction	2,00 – 4,00 4,00 – 10,00	Nitrogen mass fraction	0,50 – 2,50	Protein mass fraction	3,00 – 16,00	Fat mass fraction	0,50 – 12,00	2023-2024	Participation of all COOMET member-countries is desirable
CRM index	Certified charasteristics	Planned values (range) of certified characteristics, %																													
KS-1-1	Moisture mass fraction	2,00 – 4,00 4,00 – 10,00																													
	Nitrogen mass fraction	0,50 – 2,50																													
	Protein mass fraction	3,00 – 16,00																													
	Fat mass fraction	0,50 – 12,00																													
CRM index	Certified charasteristics	Planned values (range) of certified characteristics, %																													
KS-1-2	Moisture mass fraction	2,00 – 4,00 4,00 – 10,00																													
	Nitrogen mass fraction	0,50 – 2,50																													
	Protein mass fraction	3,00 – 16,00																													
	Fat mass fraction	0,50 – 12,00																													

1	2	3	4	5	6	7	
			GSO 11146-2018				
			CRM index	Certified characteristics	Planned values (range) of certified characteristics, %		
			KS-1-3	Moisture mass fraction	2,00 – 4,00 4,00 – 10,00		
				Nitrogen mass fraction	0,50 – 2,50		
				Protein mass fraction	3,00 – 16,00		
				Fat mass fraction	0,50 – 12,00		
			GSO 11147-2018				
			CRM index	Certified characteristics	Planned values (range) of certified characteristics, %		
			KS-1-4	Moisture mass fraction	2,00 – 4,00 4,00 – 10,00		
				Nitrogen mass fraction	0,50 – 2,50		
				Protein mass fraction	3,00 – 16,00		
				Fat mass fraction	0,50 – 12,00		

1	2	3	4	5	6	7	
22.	Russia UNIIM – Affiliated Branch of the D.I. Mendeleyev Institute for Metrology 4, Krasnoarmeyskaya Str. Ekaterinburg, 620075 Egor P, Sobina Brach Director Contact Person: Olga N. Kremleva Head of Department Tel.: (343) 350-60-68 Fax.: (343) 350-24-68 E-mail: kremleva@uniim.ru E-mail: intermetron@uniim.ru	Recognition of included in the KCDB CRM of composition of dry grain-milk porridge for infant food (set KSM-1 SO UNIIM) (GSO 11127-2018/ GSO 11130-2018), as COOMET CRM within the project 858/RU-a/22 (A)	GSO 11127-2018			2023-2024	Participation of all COOMET member-countries is desirable
			CRM index	Certified charasteristics	Planned values (range) of certified characteristics, %		
			KSM-1-1	Moisture mass fraction	2,00 – 4,00 4,00 – 10,00		
				Nitrogen mass fraction	1,00 – 3,00		
				Protein mass fraction	6,25 – 20,00		
				Fat mass fraction	5,00 – 20,00		
			GSO 11128-2018				
			CRM index	Certified charasteristics	Planned values (range) of certified characteristics, %		
			KSM-1-2	Moisture mass fraction	2,00 – 4,00 4,00 – 10,00		
				Nitrogen mass fraction	1,00 – 3,00		
				Protein mass fraction	6,25 – 20,00		
				Fat mass fraction	5,00 – 20,00		

1	2	3	4	5	6	7	
			GSO 11129-2018				
			CRM index	Certified characteristics	Planned values (range) of certified characteristics, %		
			KSM-1-3	Moisture mass fraction	2,00 – 4,00 4,00 – 10,00		
				Nitrogen mass fraction	1,00 – 3,00		
				Protein mass fraction	6,25 – 20,00		
				Fat mass fraction	5,00 – 20,00		
			GSO 11130-2018				
			CRM index	Certified characteristics	Planned values (range) of certified characteristics, %		
			KSM-1-4	Moisture mass fraction	2,00 – 4,00 4,00 – 10,00		
				Nitrogen mass fraction	1,00 – 3,00		
				Protein mass fraction	6,25 – 20,00		
				Fat mass fraction	5,00 – 20,00		

1	2	3	4	5	6	7																																
23.	Russia UNIIM – Affiliated Branch of the D.I. Mendeleyev Institute for Metrology 4, Krasnoarmeyskaya Str. Ekaterinburg, 620075 Egor P, Sobina Brach Director Contact Person: Olga N. Kremleva Head of Department Tel.: (343) 350-60-68 Fax.: (343) 350-24-68 E-mail: kremleva@uniim.ru E-mail: intermetron@uniim.ru	Recognition of included in the KCDB CRM of composition of compound animal feedstuff (set KK-1 SO UNIIM) (GSO 11268-2019/ GSO 11270-2019), as COOMET CRM within the project 858/RU-a/22 (A)	GSO 11268-2019 <table><tr><td>CRM index</td><td>Certified charasteristics</td><td>Planned values (range) of certified characteristics, %</td></tr><tr><td rowspan="5">KK-1-1</td><td>Moisture mass fraction</td><td>7,0 – 18,0</td></tr><tr><td>Nitrogen mass fraction</td><td>1,60 – 4,80</td></tr><tr><td>Crude protein mass fraction</td><td>10,0 – 30,0</td></tr><tr><td>Crude fat mass fraction</td><td>1,0 – 10,0</td></tr><tr><td>Crude ash mass fraction</td><td>1,00 – 10,00 10,0 – 20,0</td></tr><tr><td colspan="3">GSO 11269-2019</td></tr><tr><td>CRM index</td><td>Certified charasteristics</td><td>Planned values (range) of certified characteristics, %</td></tr><tr><td rowspan="5">KK-1-2</td><td>Moisture mass fraction</td><td>7,0 – 18,0</td></tr><tr><td>Nitrogen mass fraction</td><td>1,60 – 4,80</td></tr><tr><td>Crude protein mass fraction</td><td>10,0 – 30,0</td></tr><tr><td>Crude fat mass fraction</td><td>1,0 – 10,0</td></tr><tr><td>Crude ash mass fraction</td><td>1,00 – 10,00 10,0 – 20,0</td></tr></table>			CRM index	Certified charasteristics	Planned values (range) of certified characteristics, %	KK-1-1	Moisture mass fraction	7,0 – 18,0	Nitrogen mass fraction	1,60 – 4,80	Crude protein mass fraction	10,0 – 30,0	Crude fat mass fraction	1,0 – 10,0	Crude ash mass fraction	1,00 – 10,00 10,0 – 20,0	GSO 11269-2019			CRM index	Certified charasteristics	Planned values (range) of certified characteristics, %	KK-1-2	Moisture mass fraction	7,0 – 18,0	Nitrogen mass fraction	1,60 – 4,80	Crude protein mass fraction	10,0 – 30,0	Crude fat mass fraction	1,0 – 10,0	Crude ash mass fraction	1,00 – 10,00 10,0 – 20,0	2023-2024	Participation of all COOMET member-countries is desirable
CRM index	Certified charasteristics	Planned values (range) of certified characteristics, %																																				
KK-1-1	Moisture mass fraction	7,0 – 18,0																																				
	Nitrogen mass fraction	1,60 – 4,80																																				
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	Crude fat mass fraction	1,0 – 10,0																																				
	Crude ash mass fraction	1,00 – 10,00 10,0 – 20,0																																				
GSO 11269-2019																																						
CRM index	Certified charasteristics	Planned values (range) of certified characteristics, %																																				
KK-1-2	Moisture mass fraction	7,0 – 18,0																																				
	Nitrogen mass fraction	1,60 – 4,80																																				
	Crude protein mass fraction	10,0 – 30,0																																				
	Crude fat mass fraction	1,0 – 10,0																																				
	Crude ash mass fraction	1,00 – 10,00 10,0 – 20,0																																				

1	2	3	4	5	6	7
			GSO 11270-2019			
			CRM index	Certified characteristics		
			KK-1-3	Moisture mass fraction		
				Nitrogen mass fraction		
				Crude protein mass fraction		
				Crude fat mass fraction		
				Crude ash mass fraction		
24.	<p>Russia UNIIM – Affiliated Branch of the D.I. Mendeleyev Institute for Metrology 4, Krasnoarmeyskaya Str. Ekaterinburg, 620075 Egor P, Sobina Brach Director</p> <p>Contact Person: Olga N. Kremleva Head of Department Tel.: (343) 350-60-68 Fax.: (343) 350-24-68 E-mail: kremleva@uniim.ru E-mail: intermetron@uniim.ru</p>	<p>Recognition of included in the KCDB CRM of egg powder composition (YP-1 SO UNIIM) (GSO 11271-2019), as COOMET CRM</p> <p>within the project <u>858/RU-a/22 (A)</u></p>	Moisture mass fraction, %	1,0 – 6,0	2023–2024	Participation of all COOMET member-countries is desirable
			Nitrogen mass fraction, %	5,60 – 8,80		
			Protein mass fraction, %	30,0 – 55,0		
			Fat mass fraction, %	35,0 – 60,0		

1	2	3	4	5	6	7
25.	<p>Kazakhstan Karaganda branch RSE "KazStandard" 100009, Karaganda, st. Anzherskaya, 22/2</p> <p>Contact Person: Olga V. Savinkova Leading Specialist tel.: +8 7232 26 47 74 e-mail: o.savinkova@ksm.kz</p>	<p>Recognition of included in the KCDB CRM for the composition of the calibration gas mixture of propane in nitrogen (C₃H₈-N₂) (KZ.03.01.00113-2009), as COOMET CRM</p> <p>within the project 858/RU-a/22 (A)</p>	Volume fraction of propane, %	0,500 ($\delta = \pm 2,0 \%$)	2022	<p>Information about the possibility of recognition was received from:</p> <p>Armenia Belarus Russia Slovakia</p> <p>Participation of all COOMET member-countries is desirable</p>
26.	<p>Kazakhstan Karaganda branch RSE "KazStandard" 100009, Karaganda, st. Anzherskaya, 22/2</p> <p>Contact Person: Olga V. Savinkova Leading Specialist tel.: +8 7232 26 47 74 e-mail: o.savinkova@ksm.kz</p>	<p>Recognition of included in the KCDB CRM for the composition of the calibration gas mixture of propane in helium (C₃H₈-He) (KZ.04.01.00025-2020) as COOMET CRM</p> <p>within the project 858/RU-a/22 (A)</p>	Volume fraction of propane, %	0,030 ($\delta = \pm 5,0 \%$)	2022	<p>Information about the possibility of recognition was received from:</p> <p>Armenia Russia Slovakia</p> <p>Participation of all COOMET member-countries is desirable</p>

1	2	3	4	5	6	7
27.	<p>Kazakhstan Karaganda branch RSE "KazStandard" 100009, Karaganda, st. Anzherskaya, 22/2</p> <p>Contact Person: Olga V. Savinkova Leading Specialist tel.: +8 7232 26 47 74 e-mail: o.savinkova@ksm.kz</p>	<p>Recognition of included in the KCDB CRM for the composition of the calibration gas mixture of propane in nitrogen (C₃H₈-N₂) (KZ.03.01.00539-2015) as COOMET CRM</p> <p>within the project 858/RU-a/22 (A)</p>	Volume fraction of propane, %	0,01 – 0,70	2022	<p>Information about the possibility of recognition was received from:</p> <p>Armenia Russia Slovakia</p> <p>Participation of all COOMET member-countries is desirable</p>
28.	<p>Kazakhstan Karaganda branch RSE "KazStandard" 100009, Karaganda, st. Anzherskaya, 22/2</p> <p>Contact Person: Olga V. Savinkova Leading Specialist tel.: +8 7232 26 47 74 e-mail: o.savinkova@ksm.kz</p>	<p>Recognition of included in the KCDB CRM for the composition of the calibration gas mixture of propane in nitrogen (C₃H₈-N₂) (KZ.03.01.00540-2015) as COOMET CRM</p> <p>within the project 858/RU-a/22 (A)</p>	Volume fraction of propane, %	0,05 – 0,10	2022	<p>Information about the possibility of recognition was received from:</p> <p>Armenia Russia Slovakia</p> <p>Participation of all COOMET member-countries is desirable</p>

1	2	3	4	5	6	7
29.	<p>Kazakhstan Karaganda branch RSE "KazStandard" 100009, Karaganda, st. Anzherskaya, 22/2</p> <p>Contact Person: Olga V. Savinkova Leading Specialist tel.: +8 7232 26 47 74 e-mail: o.savinkova@ksm.kz</p>	<p>Recognition of included in the KCDB CRM for the composition of the calibration gas mixture of propane in nitrogen (C₃H₈-N₂) (KZ.03.01.00541-2015) as COOMET CRM</p> <p>within the project <u>858/RU-a/22 (A)</u></p>	Volume fraction of propane, %	0,100 – 0,200	2022	<p>Information about the possibility of recognition was received from:</p> <p>Armenia Russia Slovakia</p> <p>Participation of all COOMET member-countries is desirable</p>
30.	<p>Kazakhstan Karaganda branch RSE "KazStandard" 100009, Karaganda, st. Anzherskaya, 22/2</p> <p>Contact Person: Olga V. Savinkova Leading Specialist tel.: +8 7232 26 47 74 e-mail: o.savinkova@ksm.kz</p>	<p>Recognition of included in the KCDB CRM for the composition of the calibration gas mixture of propane in nitrogen (C₃H₈-N₂) (KZ.03.01.00543-2015) as COOMET CRM</p> <p>within the project <u>858/RU-a/22 (A)</u></p>	Volume fraction of propane, %	0,350 – 0,475	2022	<p>Information about the possibility of recognition was received from:</p> <p>Armenia Belarus Russia Slovakia</p> <p>Participation of all COOMET member-countries is desirable</p>

1	2	3	4	5	6	7
31.	<p>Kazakhstan Karaganda branch RSE "KazStandard" 100009, Karaganda, st. Anzherskaya, 22/2</p> <p>Contact Person: Olga V. Savinkova Leading Specialist tel.: +8 7232 26 47 74 e-mail: o.savinkova@ksm.kz</p>	<p>Recognition of included in the KCDB CRM for the composition of the calibration gas mixture of carbon monoxide, carbon dioxide, propane in nitrogen (CO-CO₂-C₃H₈-N₂) (KZ.03.01.00556-2015) as COOMET CRM</p> <p>within the project 858/RU-a/22 (A)</p>	<p>Volume fraction of CO, %</p> <p>Volume fraction of CO₂, %</p> <p>Volume fraction of C₃H₈, %</p>	<p>0,5 – 1,0 1,0 – 7,0</p> <p>4,0 – 16,0</p> <p>0,010 – 0,250</p>	<p>2022</p>	<p>Information about the possibility of recognition was received from:</p> <p>Armenia Belarus Russia Slovakia</p> <p>Participation of all COOMET member-countries is desirable</p>
32.	<p>Kazakhstan Karaganda branch RSE "KazStandard" 100009, Karaganda, st. Anzherskaya, 22/2</p> <p>Contact Person: Olga V. Savinkova Leading Specialist tel.: +8 7232 26 47 74 e-mail: o.savinkova@ksm.kz</p>	<p>Recognition of included in the KCDB CRM for the composition of the calibration gas mixture of carbon monoxide, carbon dioxide, oxygen, propane in nitrogen (CO-CO₂-O₂-C₃H₈-N₂) (KZ.03.01.00557-2015) as COOMET CRM</p> <p>within the project 858/RU-a/22 (A)</p>	<p>Volume fraction of CO, %</p> <p>Volume fraction of CO₂, %</p> <p>Volume fraction of O₂, %</p> <p>Volume fraction of C₃H₈, %</p>	<p>0,3 – 1,0 1,0 – 7,0</p> <p>4,0 – 16,0</p> <p>0,5 – 1,0 1,0 – 21,0</p> <p>0,010 – 0,200</p>	<p>2022</p>	<p>Information about the possibility of recognition was received from:</p> <p>Armenia Russia Slovakia</p> <p>Participation of all COOMET member-countries is desirable</p>

1	2	3	4	5	6	7
33.	<p>Kazakhstan Karaganda branch RSE "KazStandard" 100009, Karaganda, st. Anzherskaya, 22/2</p> <p>Contact Person: Olga V. Savinkova Leading Specialist tel.: +8 7232 26 47 74 e-mail: o.savinkova@ksm.kz</p>	<p>Recognition of included in the KCDB CRM for the composition of the calibration gas mixture of carbon monoxide, carbon dioxide, oxygen, propane in nitrogen/air (CO-CO₂-O₂*-C₃H₈-N₂/воздух) (KZ.03.01.00558-2015) as COOMET CRM</p> <p>within the project 858/RU-a/22 (A)</p>	<p>Volume fraction of CO, %</p> <p>Volume fraction of CO₂, %</p> <p>Volume fraction of O₂, %</p> <p>Volume fraction of C₃H₈, %</p>	<p>0,25 – 10,0</p> <p>1,0 – 20,0</p> <p>0,5 – 25,0</p> <p>0,005 – 0,500</p>	<p>2022</p>	<p>Information about the possibility of recognition was received from:</p> <p>Armenia Belarus Russia Slovakia</p> <p>Participation of all COOMET member-countries is desirable</p>

Ind .N N	Country, CRM producer, contact person	Project	Certified characteristics	Planned values (range) of certified characteristics	Period of CRM development	Notes
1	2	3	4	5	6	7
Part 2 (projects, proposed for initial consideration are included)						
1.	Russia UNIIM – Affiliated Branch of the D.I. Mendeleyev Institute for Metrology 4, Krasnoarmeyskaya Str. Ekaterinburg, 620075 Egor P, Sobina Brach Director	Development of CRM for isotope composition of lead enriched by ²⁰⁶ Pb, in nitrate solution	Mass fraction of lead isotopes: with mass number 204 with mass number 206 with mass number 207 with mass number 208	0,01 – 5,00 25,2 – 97,0 1,00 – 22,0 1,00 – 52,0	2022-2023	Participation of all COOMET member-countries is desirable
2.		Development of CRM for isotope composition of nickel enriched by ⁶⁰ Ni isotope, in nitrate solution	Mass fraction of nickel isotopes: with mass number 58 with mass number 60 with mass number 61 with mass number 62 with mass number 64	0,1 – 68,2 27,0 – 99,8 0,01 – 10,0 0,01 – 10,0 0,01 – 1,0	2022-2023	Participation of all COOMET member-countries is desirable

1	2	3	4	5	6	7
Part 2 (projects, proposed for initial consideration are included)						
3.	Russia JCS “Krastsvetmet”, 1, Transportny proezd, Krasnoyarsk the Russian Federation 660027 Director Mikhail V. Dyagilev Tel. +7 391 259 3333 E-mail: info@krastsvetmet.ru	Development of CRMs for composition of the cathode Deposit	Mass fraction of elements, %		2022-2023	Participation of all COOMET member-countries is desirable
				2022-2023		
			Au			
			Ag			
			Fe			
			Cu			
			Ni			
4.	Contact person: Konstantin A. Shatnykh, Head of projects tel. +7 391 259 33 33 (29-06) mobile phone.: +7 913 83 07 331 E-mail: KShatnyh@krastsvetmet.ru Alena Shleyning, Research Engineer tel. +7 391 259 33 33 (28-46) E-mail: A.Shleining@krastsvetmet.ru	Development of CRMs for composition of saturated activated carbon	Mass fraction of elements, mg/g		2022-2023	Participation of all COOMET member-countries is desirable
			Au	5,00-10,00		
			Ag	0,10-2,00		
			Cu	0,10-0,50		

1	2	3	4	5	6	7
Part 2 (projects, proposed for initial consideration are included)						
5.	<p>Russia JCS “Krastsvetmet”, 1, Transportny proezd, Krasnoyarsk the Russian Federation 660027 Director Mikhail V. Dyagilev</p> <p>Tel. +7 391 259 3333 E-mail: info@krastsvetmet.ru</p> <p>Contact person: Konstantin A. Shatnykh, Head of projects</p> <p>tel. +7 391 259 33 33 (29-06) mobile phone.: +7 913 83 07 331 E-mail: KShatnyh@krastsvetmet.ru</p> <p>Alena Shleyning, Research Engineer tel. +7 391 259 33 33 (28-46) E-mail: A.Shleining@krastsvetmet.ru</p>	Development of CRMs for composition of flotation concentrate	Mass fraction of elements		2022-2023	Participation of all COOMET member-countries is desirable
Au			40,00-60,00 g/t			
Ag			10,00-50,00 g/t			
Cu			200,00-300,00 g/t			
Fe			8,00-12,00 %			
As			1,70-2,50 %			
Ni			40,00-65,00 g/t			
Zn			500,00-550,00 g/t			
S tot			7,00-9,00 %			
S (sulfide)			7,00-9,00 %			
C tot	1,60-1,80 %					
C org	0,70-1,00 %					
Cl (watersoluble)	10,00-30,00 g/t					

1	2	3	4	5	6	7
Part 2 (projects, proposed for initial consideration are included)						
6.	<p>Russia JCS “Krastsvetmet”, 1, Transportny proezd, Krasnoyarsk the Russian Federation 660027 Director Mikhail V. Dyagilev</p> <p>Tel. +7 391 259 3333 E-mail: info@krastsvetmet.ru</p> <p>Contact person: Konstantin A. Shatnykh, Head of projects</p> <p>tel. +7 391 259 33 33 (29-06) mobile phone.: +7 913 83 07 331 E-mail: KShatnyh@krastsvetmet.ru</p> <p>Alena Shleyning, Research Engineer tel. +7 391 259 33 33 (28-46) E-mail: A.Shleining@krastsvetmet.ru</p>	Development of CRMs for composition of antimony cathode	Mass fraction of elements, %		2022-2023	Participation of all COOMET member-countries is desirable
Bismuth			0,0005-0,10			
Iron			0,0005-0,10			
Gold			0,0008-0,10			
Cadmium			0,0005-0,10			
Silicon			0,0010-0,10			
Magnesium			0,0005-0,10			
Manganese			0,0005-0,10			
Copper			0,0005-0,10			
Arsenic			0,0010-0,10			
Sodium			0,0010-0,10			
Nickel			0,0005-0,10			
Tin			0,0005-0,10			
Lead			0,0005-0,10			
Silver			0,0005-0,10			
Sulfur			0,010-1,0			
Zinc			0,0005-0,10			

1	2	3	4	5	6	7
Part 2 (projects, proposed for initial consideration are included)						
7.	<p>Russia JSC «West-Siberian Testing Centre» (JSC «Zsicentre») 9 Ordzhonikidze Str., Kemerovo region, Novokuznetsk, 654006 General Director Natalya V. Zhuravleva tel.: (8-3843) 74-57-22 fax: (8-3843) 74-57-22 e-mail: main@zsic.ru</p> <p>Contact person: Svetlana N. Shushunova Head of Quality Control Department tel./fax: (8-3843) 74-57-22 e-mail: shushunova_sn@zsic.ru</p>	<p>Conducting comparison tests of certified characteristics of CRMs for the composition and properties of hard coal grade T (SO-44) GSO 10896-2017</p>	<p>Ash-content (A^d) Mass fraction of total sulfur (S_t^d) Actual Density (d_r^d) Mass fraction of phosphorus (P^d) Volatile-matter yield (V^d)</p> <p><i>Note: certified characteristics are calculated based on the dry condition of the fuel according to GOST 27313-2015</i></p>	<p>19,1 % 0,26 % 1,52 г/см3 0,017 % 14,3</p>	<p>2023</p>	<p>Participants: 1. Latvia 2. Russia 3. Ukraine</p> <p>Participation of all COOMET member- countries is desirable</p>