

安定同位体 標準物質 カタログ

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価格についてはオープン価格で行っておりますので、お手数でもお問合せ下さい。

株式会社 ゼネラルサイエンスコーポレーション

〒170-0005 東京都豊島区南大塚3-11-8

TEL. 03(5927)8356 FAX. 03(5927)8357

e-mail : standard@shibayama.co.jp web : www.shibayama.co.jp

安定同位体 編

各種安定同位体物質 Light Stable Isotopic	}	3~12
オークリッジ安定同位体リスト	13~18
ISC科学 同位体標準溶液	19~23

- ・各無機元素の異なる質量数の濃縮型安定同位体
（形状、enrichement を選べ、またリクエストに応える物質もございます。）
- ・質量分析による同位体組成を決定した元素
- ・同位体比率の計測・決定に使用する物質。

IRMM009 0.2M HNO ₃ solution		
Isotope amount fraction (・100)		
²⁴ Mg: 78.992(25)	²⁵ Mg: 10.003(9)	²⁶ Mg: 11.005(19)
Amount ratios		
$n(^{25}\text{Mg})/n(^{24}\text{Mg}): 0.126\ 63(13)$		$n(^{26}\text{Mg})/n(^{24}\text{Mg}): 0.139\ 32(26)$

IRMM010 Pt metal (30mg/wire)					
Isotope amount fraction (・100)					
¹⁹⁰ Pt: 0.011 7(12)	¹⁹² Pt: 0.782(16)	¹⁹⁴ Pt: 32.86(25)	¹⁹⁵ Pt: 33.78(14)	¹⁹⁶ Pt: 25.21(10)	¹⁹⁷ Pt: 7.356(82)
Amount ratios					
$n(^{194}\text{Pt})/n(^{195}\text{Pt}): 0.973\ (11)$		$n(^{196}\text{Pt})/n(^{195}\text{Pt}): 0.746\ 4(82)$		$n(^{198}\text{Pt})/n(^{195}\text{Pt}): 0.217\ 8(24)$	

IRMM011 H ₃ BO ₃ solid (1g)	
Isotope amount fraction (・100)	
¹⁰ B: 19.824 (20)	¹¹ B: 80.176 (20)
Amount ratios	
$n(^{10}\text{B})/n(^{11}\text{B}): 0.247\ 26(32)$	

IRMM012 1M HCl solution (0.2mmol Cr・kg ⁻¹ 5mL)				
Isotope amount fraction (・100)				
⁵⁰ Cr: 4.345(9)	⁵² Cr: 83.789(2)	⁵³ Cr: 9.50(11)	⁵⁴ Cr: 2.365(5)	
Amount ratios				
$n(^{50}\text{Cr})/n(^{52}\text{Cr}): 0.051\ 86(10)$		$n(^{53}\text{Cr})/n(^{52}\text{Cr}): 0.113\ 39(15)$		$n(^{54}\text{Cr})/n(^{52}\text{Cr}): 0.028\ 22(06)$

IRMM014 Iron metal (50mg/wire 若しくは 250mg/cubes)				
Isotope amount fraction (・100)				
⁵⁴ Fe: 5.845(23)	⁵⁶ Fe: 91.754(24)	⁵⁷ Fe: 2.119(66)	⁵⁸ Fe: 0.281(28)	
Amount ratios				
$n(^{54}\text{Fe})/n(^{56}\text{Fe}): 0.063\ 70(27)$		$n(^{57}\text{Fe})/n(^{56}\text{Fe}): 0.023\ 096(72)$		$n(^{58}\text{Fe})/n(^{56}\text{Fe}): 0.003\ 071(29)$

IRMM015 Li ₂ O ₃ solid (50mg)	
Isotope amount fraction (・100)	
⁶ Li: 95.610 (20)	⁷ Li: 4.390 (20)
Amount ratios	
$n(^{6}\text{Li})/n(^{7}\text{Li}): 21.78\ (12)$	

IRMM016 Li ₂ O ₃ solid (1g)	
Isotope amount fraction (・100)	
⁶ Li: 7.589 (24)	⁷ Li: 92.411 (24)
Amount ratios	
$n(^{6}\text{Li})/n(^{7}\text{Li}): 0.082\ 12\ (28)$	

IRMM017 Silicon solid (50mg)		
Isotope amount fraction (・100)		
²⁸ Si: 92.228(66)	²⁹ Si: 4.682 59(58)	³⁰ Si: 3.088 64(70)
Amount ratios		
$n(^{29}\text{Si})/n(^{28}\text{Si}): 0.050\ 771(66)$		$n(^{30}\text{Si})/n(^{28}\text{Si}): 0.033\ 488(78)$

IRMM018 SiO ₂ solid (5g)		
Isotope amount fraction (・100)		
²⁸ Si: 92.214 40(70)	²⁹ Si: 4.688 57(42)	³⁰ Si: 3.097 03(58)
Amount ratios		
$n(^{29}\text{Si})/n(^{28}\text{Si}): 0.050\ 844(48)$		$n(^{30}\text{Si})/n(^{28}\text{Si}): 0.033\ 585(66)$

ERM-AE101 Boric Acid Solution	
Analyte	Value
$n(10\text{B})/n(\text{B})$ boron	20.411%
$n(11\text{B})/n(\text{B})$ boron	78.005%
$n(10\text{B})/n(\text{B})$ boron	21.995%
$m(11\text{B})/m(\text{B})$ boron	79.589%
w(B) boron	1000 mg/kg (参考値)
M(B) boron	10.79015 g/mol

ERM-AE102 Boric Acid Solution	
Analyte	Value
$n(10\text{B})/n(11\text{B})$ boron	29.82%
$n(11\text{B})/n(\text{B})$ boron	70.183%
$m(10\text{B})/m(\text{B})$ boron	27.871%
$m(11\text{B})/m(\text{B})$ boron	72.129%
M(B) boron	10.71222 g/mol
w(B) boron	999 mg/kg (参考値)
$n(10\text{B})/n(11\text{B})$ boron boron	0.42485 mol/mol

ERM-AE103 Boric Acid Solution	
Analyte	Value
$n(10\text{B})/n(11\text{B})$ boron	0.9895 mol/mol
$n(10\text{B})/n(\text{B})$ boron	49.737%
$n(11\text{B})/n(\text{B})$ boron	50.264%
$m(10\text{B})/m(\text{B})$ boron	47.368%
$m(11\text{B})/m(\text{B})$ boron	52.632%
M(B) boron	10.51374 g/mol
w(B) boron	1000 mg/kg (参考値)

ERM-AE104 Boric Acid Solution	
Analyte	Value
$n(10\text{B})/n(11\text{B})$ boron	0.45966 mol/mol
$n(11\text{B})/n(\text{B})$ boron	68.509%
$n(10\text{B})/n(\text{B})$ boron	31.491%
$m(10\text{B})/m(\text{B})$ boron	29.481%
M(B) boron	10.69554 g/mol
w(B) boron	999 mg/kg (参考値)
$m(11\text{B})/m(\text{B})$ boron	70.519%

ERM-AE633 ⁶³ Cu copper	
5.998E-6 mol/g	

ERM-AE637 ²⁴ Mg magnesium	
7.9137E-7 mol/g	

ERM-AE638 ²⁶ Mg magnesium	
8.574E-7 mol/g	

ERM-AE639 202Hg mercury
1.1891E-8 mol/g

ERM-AE640 202Hg mercury
1.471E-8 mol/g

ERM-AE641 35Cl chloride
18.959E-6 mol/g

ERM-AE642 37Cl chloride
4.375E-6 mol/g

ERM-AE647 63Cu copper
1.34974E-4 mol/g

ERM-AE649 205Tl thallium
8.3688E-7 mol/g

ERM-AE701 Calcium	
Analyte	Value
n(41Ca)/n(40Ca) calcium	1.0114E-6 mol%
n(41Ca)/n(40Ca) calcium	1.0235E-7 mol%
n(41Ca)/n(40Ca) calcium	1.0181E-8 mol%
n(41Ca)/n(40Ca) calcium	1.0479E-9 mol%
n(41Ca)/n(40Ca) calcium	1.0520E-10 mol%
n(41Ca)/n(40Ca) calcium	1.0913E-11 mol%
n(41Ca)/n(40Ca) calcium	1.0549E-12 mol%
n(41Ca)/n(40Ca) calcium	1.0524E-13 mol%

Isotopically Labeled Priority Pollutants SRM1586 (set of 6)				
	濃度 μ g/g	純度 (GC)%	純度 (MS)%	Percent of Molecules Totally Labeled
Carbontetrachloride	128.5	99.9		
Carbontetrachloride- ¹³ C	124.4	99.6	99.5	99.5
Benzen	101.1	99.9		
Benzen-d ₅	99.0	99.9	99.7	97.9
Chlorobenzene	133.0	99.9		
Chlorobenzene-d ₅	144.0	99.9	99.6	97.9
Phenol	117.0	99.9		
Phenol-d ₆	116.0	99.9	98.3	91.4
Nitrobenzen	126	99.9		
Nitrobenzen-d ₅	134.5	99.9	99.6	97.8
2-Nitrophenol	103.6	99.9		
2-Nitrophenol-d ₄	101.9	99.9	98.9	5.5
2,4-dichlorophenol	102.5	99.9		
2,4-dichlorophenol-d ₃	82.2	98.4	98.7	96.0
Naphthalene	126.5	99.4		
Naphthalene-d ₈	126.6	99.8	99.5	95.6
Bis(2-ethylhexyl)phthalate	63.9	99.5		
Bis(2-ethylhexyl)phthalate-d ₄	60.4	96.7	98.6	94.5
Benzo[a]pyene	49.2	99.5		
Benzo[a]pyene-d ₁₂	44.1	98.1	98.8	86.2

Isotope Abundance Ratio Ethanol BCR123 (Set of 3)			
Parameter	Ethanol H	Ethanol M	Ethanol L
(D/H) _I	109.65×10^{-5}	101.59×10^{-5}	90.30×10^{-5}
(D/H) _{II}	119.76×10^{-5}	130.94×10^{-5}	122.20×10^{-5}
R	2.184	2.575	2.708

(see Certificate of Analysis for uncertainties and other details)

Cat#	品名 容量	d ² H VSMOW x 1000	⁶ Li/ ⁷ Li	d ¹³ C VPDB x 1000	d ¹⁵ N Air x 1000	d ¹⁸ O VSMOW x 1000	d ¹⁸ O VPDB x 1000	d ³⁰ Si NBS28 x 1000	d ³⁴ S VCDT x 1000	Δ ¹⁷ O VSMOW
8535	VSMOW-water (20mL)	0* ref.[1]				0* ref.[1]				
8536	GISP-water (20mL)	-190 ref.[2]				-24.8 ref.[2]				
8537	SLAP-water (20mL)	-428* ref.[1]				-55.5* ref.[1]				
8538	NBS30-biotite (2g)	-66 ref.[2]				+5.1 ref.[6]				
8539	NBS22-oil (1mL)	-118 ref.[3]		-30.03 ref.[5]						
8540	IAEA-CH-7-polyethylene foil (x mg)	-100 ref.[2]		-32.15 ref.[5]						
8541	USGS24-graphite (0.8g)			-16.05 ref.[5]						
8542	IAEA-CH-6-sucrose (1g)			-10.45 ref.[5]						
8543	NBS 18-carbonatite (0.4g)			-5.01 ref.[5]		+7.20 ref.[15]	-23.01 ref.[14]			
8544	NBS 19-limestone (0.4g)			+1.95*		28.65 ref.[15]	-2.2* ref.[16]			
8545	5L-SVEC-lithium carbonate (0.4g)		0.0821 5** ref.[4]	-46.6* ref.[5]		+3.69 ref.[15]	-26.41 ref.[14]			
8546	NBS28-silica sand (optical) (0.4g)					+9.58 ref.[2]		0* ref.[12]		
8547	IAEA-N-1-ammonium sulfate (0.4g)				+0.43^ ref.[7]					
8548	IAEA-N-2-ammonium sulfate (0.4g)				+20.41 ref.[7]					
8549	IAEA-NO-3-potassium nitrate (0.4g)				+4.7 ref.[7]	+25.6 ref.[8]				-0.2 ref.[17]
8550	USGS25-ammonium sulfate (0.4g)				-30.41					
8551	USGS26-ammonium sulfate (0.4g)				+53.75 ref.[7]					
8552	NSVEC-gaseous nitrogen (1 tube 300mmol)				-2.78 ref.[7]					
8553	IAEA-S-4-Soufre de Lacq (0.5g)								+16.90 ref.[10]	
8554	IAEA-S-1-silver sulfide (0.5g)								-0.3* ref.[11]	
8555	IAEA-S-2-silver sulfide (0.5g)								+22.67 ref.[12]	

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8556	NBS123-sphalerite (0.5g)							+17.44 ref.[13]	
8557	NBS127-barium sulfate (0.5g)					+8.6 ref.[8]		+21.1 ref.[12]	
8558	USGS32-potassium nitrate (0.9g)				+180 [^] ref.[7]	+25.7 ref.[8]			
8559	NGS1-natural gas (coal origin) (<2g)	- 138(C H ₄) ref.[3]		- 29.0(C H ₄) ref.[3]					
8561	NGS3- natural gas (biogenic) (<2g)	- 176(C H ₄) ref.[3]		- 72.8(C H ₄) ref.[3]					
8562	CO ₂ -Heavy Paleomarine Origin (2 tubes)			-3.72 ref.[5]		11.86 ref.[15]	-18.49 ref.[14]		
8563	CO ₂ -Light, Petrochemical Origin (2 tubes)			- 41.59r ef.[5]		-3.64 ref.[15]	-33.52 ref.[14]		
8564	CO ₂ -Biogenic, Modern Biomass Origin (2 tubes)			- 10.45r ef.[5]		20.52 ref.[15]	-10.09 ref.[14]		
8568	USGS34 potassium nitrate (0.9g)				-1.8 ref.[8]	-27.9 ref.[8]			-0.1
8569	USGS35 sodium nitrate (0.9g)				2.7	57.5			21.6 ref.[17]
8573	L-glutamic Acid USGS40 (1g)			-26.39 ref.[12]	-4.52 ref.[1,2]				
8574	L-glutamic Acid USGS41 (0.5g)			37.63 ref.[12]	47.57 ref.[1,2]				

* Exact values defining the delta scale

^ Interim consensus values used for scale normalization

**Absolute isotope amount ratio

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Boric Acid SRM951 100g	
H ₃ BO ₃ , acidimetric assay, mass fraction	100.00
Absolute Abundance Ratio, ¹⁰ B/ ¹¹ B	0.2473
Boron-10, atom %	19.827
Boron-11, atom %	80.173

Enriched Boric Acid SRM952 0.25g powder	
H ₃ BO ₃ , acidimetric assay, mass fraction	99.97
Absolute Abundance Ratio, ¹⁰ B/ ¹¹ B	18.80
Boron-10, atom %	94.949
Boron-11, atom %	5.051

Isotopic Standard for Chlorine SRM975a 0.25g	
Absolute Abundance Ratio, ³⁵ Cl/ ³⁷ Cl	3.13
Isotope Composition Chlorine-35, atom %	75.774
Isotope Composition Chlorine-37, atom %	24.226
Atomic Weight	35.45265

Isotopic Standard for Bromine SRM977 0.25g powder	
Absolute Abundance Ratio, ⁷⁹ Br/ ⁸¹ Br	1.02784
Isotope Composition Bromine-79, atom %	50.686
Isotope Composition Bromine-81, atom %	49.314

Assay-Isotopic Standard for Silver SRM978a 0.25g powder	
AgNO ₃ , Silver assay, weight %	99.99
Absolute Abundance Ratio, ¹⁰⁷ Ag/ ¹⁰⁹ Ag	1.07638
Isotope Composition ¹⁰⁷ Ag, atom %	51.8392
Isotope Composition ¹⁰⁸ Ag, atom %	48.1608
Silver Atomic Weight	107.86815

Assay-Isotopic Standard for Chromium SRM979 0.25g powder	
Absolute Abundance Ratio, ⁵⁰ Cr/ ⁵² Cr	0.05186
Absolute Abundance Ratio, ⁵³ Cr/ ⁵² Cr	.11339
Absolute Abundance Ratio, ⁵⁴ Cr/ ⁵² Cr	.02822
⁵⁰ Cr, atom %	4.345
⁵² Cr, atom %	83.789
⁵³ Cr, atom %	9.501
⁵⁴ Cr, atom %	2.365

Assay-Isotopic Standard for Magnesium SRM980 0.25g chips	
Absolute Abundance Ratio, ²⁵ Mg/ ²⁴ Mg	0.12663
Absolute Abundance Ratio, ²⁶ Mg/ ²⁴ Mg	0.13932
²⁴ Mg, atom %	78.992
²⁵ Mg, atom %	10.003
²⁶ Mg, atom %	11.005

Common Lead Isotopic Standard	SRM981	1g wire
Atomic Abundance Ratio, $^{204}\text{Pb}/^{206}\text{Pb}$		0.059042
Atomic Abundance Ratio, $^{207}\text{Pb}/^{206}\text{Pb}$		0.91464
Atomic Abundance Ratio, $^{208}\text{Pb}/^{206}\text{Pb}$		2.1681
^{204}Pb , atom %		1.4255
^{206}Pb , atom %		24.1442
^{207}Pb , atom %		22.0833
^{208}Pb , atom %		52.3470

Equal-Atom Lead Isotopic Standard	SRM982	1g wire
Atomic Abundance Ratio, $^{204}\text{Pb}/^{206}\text{Pb}$		0.027219
Atomic Abundance Ratio, $^{207}\text{Pb}/^{206}\text{Pb}$		0.46707
Atomic Abundance Ratio, $^{208}\text{Pb}/^{206}\text{Pb}$		1.00016
^{204}Pb , atom %		1.0912
^{206}Pb , atom %		40.0890
^{207}Pb , atom %		18.7244
^{208}Pb , atom %		40.0954

Radiogenic Lead Isotopic Standard	SRM983	1g wire
Atomic Abundance Ratio, $^{204}\text{Pb}/^{206}\text{Pb}$		0.000371
Atomic Abundance Ratio, $^{207}\text{Pb}/^{206}\text{Pb}$		0.071201
Atomic Abundance Ratio, $^{208}\text{Pb}/^{206}\text{Pb}$		0.013619
^{204}Pb , atom %		0.0342
^{206}Pb , atom %		92.1497
^{207}Pb , atom %		6.5611
^{208}Pb , atom %		1.2550

Rubidium Chloride assay and isotopic	SRM984	1g powder
RbCl rubidium assay, weight %		99.90
Absolute abundance ratio, $^{85}\text{Pb}/^{87}\text{Pb}$		2.593

Assay-Isotopic Standard for Potassium	SRM985	1g powder
Absolute Abundance Ratio, $^{39}\text{K}/^{41}\text{K}$		13.8566
Absolute Abundance Ratio, $^{40}\text{K}/^{41}\text{K}$		0.001734
^{39}K , atom %		93.2581
^{40}K , atom %		0.011670
^{41}K , atom %		6.7302
Atomic Weight of Potassium		39.098304

Isotopic Standard for Nickel	SRM986	0.5g powder
Absolute Abundance Ratio, $^{58}\text{Ni}/^{60}\text{Ni}$		2.596061
Absolute Abundance Ratio, $^{61}\text{Ni}/^{60}\text{Ni}$		0.043469
Absolute Abundance Ratio, $^{62}\text{Ni}/^{60}\text{Ni}$		0.138600
Absolute Abundance Ratio, $^{64}\text{Ni}/^{60}\text{Ni}$		0.035295
Isotopic Composition, ^{58}Ni Atomic %		68.076886
Isotopic Composition, ^{60}Ni Atomic %		26.223146
Isotopic Composition, ^{61}Ni Atomic %		1.139894
Isotopic Composition, ^{62}Ni Atomic %		3.634528
Isotopic Composition, ^{64}Ni Atomic %		0.925546
Atomic Weight of Nickel		58.6934

Strontium Carbonate Standard	SRM987	1g powder
Absolute Abundance Ratio, $^{88}\text{Sr}/^{86}\text{Sr}$		8.37861
Absolute Abundance Ratio, $^{87}\text{Sr}/^{86}\text{Sr}$		0.71034
Absolute Abundance Ratio, $^{84}\text{Sr}/^{86}\text{Sr}$		0.05655
that yields atom % of ^{88}Sr		82.5845
that yields atom % of ^{87}Sr		7.0015
that yields atom % of ^{86}Sr		9.8566
that yields atom % of ^{84}Sr		0.5574

Assay-Isotopic Standard for Rhenium	SRM989	0.03x0.0076x1.90 ribbon
Absolute Abundance Ratio, $^{185}\text{Re}/^{187}\text{Re}$		0.59738
$^{185}\text{Rhenium}$, atom %		37.398
$^{187}\text{Rhenium}$, atom %		62.602
Atomic Weight of Rhenium		186.20679

Lead-206 Assay-Isotopic Standard	SRM991	(15g of solution)
Molality of Lead		0.32261
Isotopic Composition ^{204}Pb , atom %		< 0.0003
Isotopic Composition ^{204}Pb , atom %		99.979
Isotopic Composition ^{204}Pb , atom %		0.008
Isotopic Composition ^{204}Pb , atom %		0.013
Atomic Weight of Lead		205.975

Isotopic Standard for Gallium	SRM994	0.25g
Absolute Abundance Ratio, $^{69}\text{Ga}/^{71}\text{Ga}$		1.50676
Isotopic Composition ^{69}Ga , atom %		60.1079
Isotopic Composition ^{71}Ga , atom %		39.892
Atomic Weight of Gallium		(69.72307)

Isotopic Standard for Thallium SRM997 0.25g	
Absolute Abundance Ratio, $^{205}\text{Tl}/^{203}\text{Tl}$	2.38714
Thallium Atomic Weight	204.38333
Isotopic Composition ^{203}Tl , atom %	29.5235
Isotopic Composition ^{205}Tl , atom %	70.4765

Iodine-129 Isotopic Standard (Low Level) — SRM3230 — (4x5mL, plus blank)	
Certified Isotopic Compositions and Uncertainties for $^{129}\text{I}/^{127}\text{I}$ Isotopic Standard	
$^{129}\text{I}/^{127}\text{I}$ Isotope Ratio, Level I	4.920×10^{-10}
$^{129}\text{I}/^{127}\text{I}$ Isotope Ratio, Level II	0.985×10^{-12}
Information Values for Isotopic Composition of Blank and Density of the SRM solution	
$^{129}\text{I}/^{127}\text{I}$ Isotope Ratio, Blank	16×10^{-15}
Solution Density	1.000 g/mL(21.2°C)

Iodine-129 Isotopic Standard (High Level) SRM3231 (4x5mL, plus blank)	
Certified Isotopic Compositions and Uncertainties for $^{129}\text{I}/^{127}\text{I}$ Isotopic Standard	
$^{129}\text{I}/^{127}\text{I}$ Isotope Ratio, Level I	0.981×10^{-6}
$^{129}\text{I}/^{127}\text{I}$ Isotope Ratio, Level II	0.982×10^{-8}
Information Values for Isotopic Composition of Blank and Density of the SRM solution	
$^{129}\text{I}/^{127}\text{I}$ Isotope Ratio, Blank	16×10^{-15}
Solution Density	1.000 g/mL(21.2°C)

オークリッジ 安定同位体 リスト

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元素名	質量数	Natural abundance (atom%)	Isotopic enrichment (atom%)	主要供給形状	代替供給形状	概算原価 (US\$/mg)
Antimony	Sb-121	57.25	>99	metal	oxide, sulfide	5.31
Antimony	Sb-123	42.75	>99	metal	oxide, sulfide	5.03
Barium	Ba-130	0.101	35-60	carbonate	nitrate, chloride, metal	368.10
Barium	Ba-132	0.097	20-50	carbonate	nitrate, chloride, metal	124.12
Barium	Ba-134	2.42	80-85	carbonate	nitrate, chloride, metal	18.34
Barium	Ba-135	6.59	>93	carbonate	nitrate, chloride, metal	9.12
Barium	Ba-136	7.81	>92	carbonate	nitrate, chloride, metal	6.04
Barium	Ba-137	11.32	>89	carbonate	nitrate, chloride, metal	3.99
Barium	Ba-138	71.66	>99	carbonate	nitrate, chloride, metal	1.08
Bromine	Br-79	50.69	>98	sodium bromide	Bromine, potassium bromide, silver bromide	11.60
Bromine	Br-81	49.31	>98	sodium bromide	Bromine, potassium bromide, silver bromide	13.27
Cadmium	Cd-106	1.215	80-91	oxide	chloride, bromide, iodide, sulfide, metal	87.61
Cadmium	Cd-108	0.875	>69	oxide	chloride, bromide, iodide, sulfide, metal	92.26
Cadmium	Cd-110	12.39	>96	oxide	chloride, bromide, iodide, sulfide, metal	9.23
Cadmium	Cd-111	12.75	>95	oxide	chloride, bromide, iodide, sulfide, metal	10.11
Cadmium	Cd-112	24.07	>97	oxide	chloride, bromide, iodide, sulfide, metal	2.61
Cadmium	Cd-113	12.26	>96	oxide	chloride, bromide, iodide, sulfide, metal	9.70
Cadmium	Cd-114	28.86	>98	oxide	chloride, bromide, iodide, sulfide, metal	1.94
Cadmium	Cd-116	7.58	>98	oxide	chloride, bromide, iodide, sulfide, metal	16.53
Calcium	Ca-40	96.97	>99.9	carbonate	chloride, oxide, nitrate, metal, iodide	0.80
Calcium	Ca-42	0.64	>93	carbonate	chloride, oxide, nitrate, metal, iodide	65.86
Calcium	Ca-43	0.145	>79	carbonate	chloride, oxide, nitrate, metal, iodide	454.29
Calcium	Ca-44	2.06	>98.5	carbonate	chloride, oxide, nitrate, metal, iodide	26.73
Calcium	Ca-46	0.0033	>43	carbonate	chloride, oxide, nitrate, metal, iodide	4154.21
Calcium	Ca-48	0.185	>97	carbonate	chloride, oxide, nitrate, metal, iodide	282.71
Carbon	C-12	98.9	>=98.9	carbon dioxide	--	--
Cerium	Ce-136	0.193	35-50	oxide	hydrated nitrate, metal	843.39
Cerium	Ce-138	0.25	>25	oxide	hydrated nitrate, metal	248.57
Cerium	Ce-140	88.48	>99.5	oxide	hydrated nitrate, metal	2.29
Cerium	Ce-142	11.07	>92	oxide	hydrated nitrate, metal	20.66
Chlorine	Cl-35	75.529	>99	sodium chloride	potassium chloride, silver chloride, barium chloride, tec.	7.55
Chlorine	Cl-35	75.77	>=99	sodium chloride	--	--
Chlorine	Cl-37	24.471	>98	sodium chloride	potassium chloride, silver chloride, barium chloride, tec.	27.61

元素名	質量数	Natural abundance (atom%)	Isotopic enrichment (atom%)	主要供給形状	代替供給形状	概算原価 (US\$/mg)
Chromium	Cr-50	4.31	>95	oxide	metal powder	72.42
Chromium	Cr-52	83.76	>99.7	oxide	metal powder	3.31
Chromium	Cr-53	9.55	>96	oxide	metal powder	31.38
Chromium	Cr-54	2.38	>94	oxide	metal powder	175.17
Copper	Cu-63	69.09	>99.8	oxide	metal powder	2.25
Copper	Cu-65	30.91	>99.6	oxide	metal powder	5.14
Dysprosium	Dy-156	0.0524	21-34	oxide	nitrate,metal	897.07
Dysprosium	Dy-158	0.00902	>20	oxide	nitrate,metal	2603.31
Dysprosium	Dy-160	2.294	69-85	oxide	nitrate,metal	25.56
Dysprosium	Dy-161	18.88	90-96	oxide	nitrate,metal	4.85
Dysprosium	Dy-162	25.53	92-96	oxide	nitrate,metal	3.65
Dysprosium	Dy-163	24.97	93-97	oxide	nitrate,metal	4.23
Dysprosium	Dy-164	28.18	>98	oxide	nitrate,metal	3.69
Erbium	Er-162	0.136	>27	oxide	nitrate,metal	470.39
Erbium	Er-164	1.56	>73	oxide	nitrate,metal	86.91
Erbium	Er-166	33.41	>96	oxide	nitrate,metal	2.68
Erbium	Er-167	22.94	>91	oxide	nitrate,metal	3.84
Erbium	Er-168	27.07	>95	oxide	nitrate,metal	3.58
Erbium	Er-170	14.88	>95	oxide	nitrate,metal	6.30
Europium	Eu-151	47.82	>92	oxide	nitrate,metal	6.66
Europium	Eu-153	52.18	>94-98	oxide	nitrate,metal	6.44
Gadolinium	Gd-152	0.20	32-51	oxide	nitrate,metal	398.36
Gadolinium	Gd-154	2.15	>66	oxide	nitrate,metal	46.30
Gadolinium	Gd-154	second-pass	--	oxide	nitrate,metal	--
Gadolinium	Gd-155	14.73	>90	oxide	nitrate,metal	14.87
Gadolinium	Gd-155	second-pass	--	oxide	nitrate,metal	--
Gadolinium	Gd-156	20.47	93-99	oxide	nitrate,metal	9.01
Gadolinium	Gd-157	15.68	>90	oxide	nitrate,metal	10.04
Gadolinium	Gd-157	second-pass	--	oxide	nitrate,metal	--
Gadolinium	Gd-158	24.87	>95	oxide	nitrate,metal	8.18
Gadolinium	Gd-160	21.90	95-98	oxide	nitrate,metal	7.87
Gallium	Ga-69	60.4	>99	oxide	metal	4.44
Gallium	Ga-71	39.6	>99	oxide	metal	8.09
Germanium	Ge-70	20.52	>98	oxide	metal	6.45
Germanium	Ge-72	27.43	>97	oxide	metal	7.01
Germanium	Ge-73	7.76	>94	oxide	metal	4.46
Germanium	Ge-74	36.54	>98	oxide	metal	3.36
Germanium	Ge-76	7.76	>92	oxide	metal	24.00
Hafnium	Hf-174	0.18	7-19	oxide	metal powder,crystal bar	2756.84
Hafnium	Hf-176	5.20	64-72	oxide	metal powder,crystal bar	128.61
Hafnium	Hf-177	18.50	86-91	oxide	metal powder,crystal bar	20.23
Hafnium	Hf-178	27.14	91-94	oxide	metal powder,crystal bar	10.82
Hafnium	Hf-179	13.75	81-87	oxide	metal powder,crystal bar	21.83
Hafnium	Hf-180	35.24	>93	oxide	metal powder,crystal bar	11.16
Indium	In-113	4.28	>96	oxide	metal	84.40
Indium	In-115	95.72	>99.99	oxide	metal	3.63
Iridium	Ir-191	37.3	98.17	metal powder	none	12.07
Iridium	Ir-193	62.7	99.45	metal powder	none	6.07

元素名	質量数	Natural abundance (atom%)	Isotopic enrichment (atom%)	主要供給形状	代替供給形状	概算原価 (US\$/mg)
Iron	Fe-54	5.82	>96	oxide	metal	20.20
Iron	Fe-56	91.66	>99.9	oxide	metal	1.02
Iron	Fe-57	2.19	86-90	oxide	metal	14.42
Iron	Fe-58	0.33	65-76	oxide	metal	220.78
Lanthanum	La-138	0.089	>7	oxide	nitrate	501.89
Lanthanum	La-139	99.911	>99.99	oxide	nitrate	4.73
Lead	Pb-204	1.48	>70	carbonate	chloride,nitrate,oxide,metal pellets or single piece	119.48
Lead	Pb-204	second pass	99.7	carbonate	chloride,nitrate,oxide,metal pellets or single piece	---
Lead	Pb-206	23.6	>99	carbonate	chloride,nitrate,oxide,metal pellets or single piece	4.82
Lead	Pb-207	22.6	>92	carbonate	chloride,nitrate,oxide,metal pellets or single piece	4.79
Lead	Pb-208	52.3	>98	carbonate	chloride,nitrate,oxide,metal pellets or single piece	2.10
Lead	Pb-208	second pass	99.9	carbonate	chloride,nitrate,oxide,metal pellets or single piece	---
Lithium	Li-6	7.42	95-96	metal,hydroxide monohydrate	fluride,chloride,sulfate, carbonate	---
Lithium	Li-7	92.58	98-99.9+	metal,hydroxide monohydrate	fluride,chloride,sulfate, carbonate	---
Magnesium	Mg-24	78.7	>99.9	oxide	metal	1.62
Magnesium	Mg-25	10.13	>97	oxide	metal	11.69
Magnesium	Mg-26	11.17	>99	oxide	metal	10.50
Mercury	Hg-196	0.146	31-48	oxide	sulfide,metal	3141.50
Mercury	Hg-198	10.02	85-96	oxide	sulfide,metal	159.57
Mercury	Hg-199	16.84	85-91	oxide	sulfide,metal	60.11
Mercury	Hg-200	23.13	>95	oxide	sulfide,metal	37.79
Mercury	Hg-201	13.22	>92	oxide	sulfide,metal	71.19
Mercury	Hg-202	29.80	>96	oxide	sulfide,metal	---
Mercury	Hg-204	6.85	90-98	oxide	sulfide,metal	146.45
Molybdenum	Mo-92	15384	>97	metal powder or oxide	none	3.73
Molybdenum	Mo-94	9.04	>91	metal powder or oxide	none	5.93
Molybdenum	Mo-95	15.72	>96	metal powder or oxide	none	3.62
Molybdenum	Mo-96	16.53	>96	metal powder or oxide	none	3.14
Molybdenum	Mo-97	9.46	>92	metal powder or oxide	none	6.19
Molybdenum	Mo-98	23.78	>96	metal powder or oxide	none	2.60
Molybdenum	Mo-100	9.63	>97	metal powder or oxide	none	6.75
N	N-14	99.63	---	Ammonium sulfate	---	---
N	N-15	0.037	---	Ammonium sulfate	---	---
Neodymium	Nd-142	27.11	>92	oxide	nitrate,metal,chloride	4.34
Neodymium	Nd-143	12.17	>91	oxide	nitrate,metal,chloride	8.09
Neodymium	Nd-144	23.85	>97	oxide	nitrate,metal,chloride	4.30
Neodymium	Nd-145	8.30	>89	oxide	nitrate,metal,chloride	11.94
Neodymium	Nd-146	17.22	>97	oxide	nitrate,metal,chloride	6.14
Neodymium	Nd-148	5.73	>94	oxide	nitrate,metal,chloride	17.86
Neodymium	Nd-150	5.62	>96	oxide	nitrate,metal,chloride	20.38
Nickel	Ni-58	68.27	>99.9	metal powder	oxide,chloride	1.02
Nickel	Ni-60	26.10	>99	metal powder	oxide,chloride	2.45
Nickel	Ni-61	1.13	88-93	metal powder	oxide,chloride	69.23
Nickel	Ni-62	3.59	>96	metal powder	oxide,chloride	19.69
Nickel	Ni-64	0.91	92-96	metal powder	oxide,chloride	53.24

元素名	質量数	Natural abundance (atom%)	Isotopic enrichment (atom%)	主要供給形状	代替供給形状	概算原価 (US\$/mg)
Oxygen	O-16	99.76	--	water	--	--
Osmium	Os-184	0.018	5.45	metal	oxide	--
Osmium	Os-186	1.59	>61	metal	oxide	600.50
Osmium	Os-187	1.64	>70	metal	oxide	159.06
Osmium	Os-188	13.3	>94	metal	oxide	31.20
Osmium	Os-189	16.1	>94	metal	oxide	25.79
Osmium	Os-190	26.4	>95	metal	oxide	13.72
Osmium	Os-192	41.0	>99	metal	oxide	10.95
Palladium	Pd-102	0.96	>69	metal	none	893.80
Palladium	Pd-104	10.97	>95	metal	none	--
Palladium	Pd-105	22.23	>97	metal	none	33.66
Palladium	Pd-106	27.33	>98	metal	none	28.21
Palladium	Pd-108	26.71	>98	metal	none	26.42
Palladium	Pd-110	11.81	>97	metal	none	67.09
Platinum	Pt-190	0.0127	>4	metal sponge	none	1347.96
Platinum	Pt-192	0.78	>57	metal sponge	none	261.44
Platinum	Pt-194	32.9	>97	metal sponge	none	4.65
Platinum	Pt-195	33.8	>97	metal sponge	none	5.65
Platinum	Pt-196	25.3	>97	metal sponge	none	6.97
Platinum	Pt-198	7.21	>95	metal sponge	none	28.68
Potassium	K-39	93.10	>99.9	chloride	none	8.70
Potassium	K-40	0.012	3-4	chloride	none	23.14
Potassium	K-41	6.88	>98	chloride	none	160.52
Rhenium	Re-185	37.07	>96	metal	none	9.40
Rhenium	Re-187	62.93	>99.2	metal	none	5.55
Rubidium	Rb-85	72.15	>99.7	chloride	carbonate	4.78
Rubidium	Rb-87	27.85	98	chloride	carbonate	11.33
Ruthenium	Ru-96	5.51	98	metal powder	oxide	--
Ruthenium	Ru-98	1.87	>89	metal powder	oxide	323.04
Ruthenium	Ru-99	12.72	>98	metal powder	oxide	39.04
Ruthenium	Ru-100	12.62	>97	metal powder	oxide	43.17
Ruthenium	Ru-101	17.07	>97	metal powder	oxide	35.05
Ruthenium	Ru-102	31.61	>99	metal powder	oxide	20.41
Ruthenium	Ru-104	18.58	>99	metal powder	oxide	27.30
Samarium	Sm-144	3.09	85-96	oxide	nitrate,metal	13.80
Samarium	Sm-147	14.97	>98	oxide	nitrate,metal	3.37
Samarium	Sm-148	11.24	>96	oxide	nitrate,metal	4.27
Samarium	Sm-149	13.83	>97	oxide	nitrate,metal	3.81
Samarium	Sm-150	7.44	>95	oxide	nitrate,metal	7.69
Samarium	Sm-152	26.72	>98	oxide	nitrate,metal	1.82
Samarium	Sm-154	22.71	>98	oxide	nitrate,metal	2.31
Selenium	Se-74	0.87	55-77	metal	oxide	761.19
Selenium	Se-76	9.02	>96	metal	oxide	29.67
Selenium	Se-77	7.58	91-94	metal	oxide	34.27
Selenium	Se-78	23.52	>97	metal	oxide	11.65
Selenium	Se-80	49.82	>99	metal	oxide	5.03
Selenium	Se-82	9.19	>96	metal	oxide	36.91
Silicon	Si-28	92.21	>99.8	oxide	metal powder,crystal bar	4.08
Silicon	Si-29	4.70	>95	oxide	metal powder,crystal bar	75.01
Silicon	Si-30	3.09	>94	oxide	metal powder,crystal bar	162.60
Silver	Ag-107	51.35	>99	metal	chloride,nitrate	3.72
Silver	Ag-109	48.65	>99	metal	chloride,nitrate	3.95

元素名	質量数	Natural abundance (atom%)	Isotopic enrichment (atom%)	主要供給形状	代替供給形状	概算原価 (US\$/mg)
Strontium	Sr-84	0.56	>80	carbonate	nitrate,metal,chloride	143.15
Strontium	Sr-86	9.86	>95	carbonate	nitrate,metal,chloride	10.34
Strontium	Sr-87	7.02	87-93	carbonate	nitrate,metal,chloride	18.85
Strontium	Sr-88	82.56	>99.8	carbonate	nitrate,metal,chloride	1.67
Sulfur	S-32	95.0	>99.8	elemental	cadmium sulfide,lead sulfide,zinc sulfide	2.14
Sulfur	S-33	0.760	48-90	elemental	cadmium sulfide,lead sulfide,zinc sulfide	960.14
Sulfur	S-34	4.22	94-98	elemental	cadmium sulfide,lead sulfide,zinc sulfide	64.63
Sulfur	S-36	0.0136	1.5-3.5	elemental	cadmium sulfide,lead sulfide,zinc sulfide	2008.19
Sulfur	S-34	4.21	--	carbon disulfide	--	--
Sulfur	S-34	4.21	--	elemental	--	--
Sulfur	S-34	4.21	--	sulfur hexafluoride	--	--
Sulfur	S-34	4.21	--	carbon disulfide	--	--
Sulfur	S-36	0.02	--	carbon disulfide	--	--
Sulfur	S-36	0.02	--	carbon disulfide	--	--
Sulfur	S-36	0.02	--	carbon disulfide	--	--
Tantalum	Ta-180	0.0123	4.10	oxide	none	17095.89
Tantalum	Ta-181	99.9877	>99.9	oxide	none	--
Tellurium	Te-120	0.089	>51	metal	oxide	1542.56
Tellurium	Te-122	2.46	>96	metal	oxide	76.85
Tellurium	Te-123	0.87	76-89	metal	oxide	190.99
Tellurium	Te-124	4.61	94-97	metal	oxide	28.32
Tellurium	Te-125	6.99	>95	metal	oxide	16.05
Tellurium	Te-126	18.71	>98	metal	oxide	8.90
Tellurium	Te-128	31.79	>99	metal	oxide	4.34
Tellurium	Te-130	34.48	>99	metal	oxide	4.49
Thallium	Tl-203	29.50	>95	oxide	metal	2.20
Thallium	Tl-205	70.50	>98	oxide	metal	1.53
Tin	Sn-112	0.96	68-80	oxide	metal	--
Tin	Sn-114	0.66	>61	oxide	metal	214.39
Tin	Sn-115	0.35	>32	oxide	metal	435.24
Tin	Sn-116	14.30	>95	oxide	metal	7.31
Tin	Sn-117	7.61	>89	oxide	metal	11.99
Tin	Sn-118	24.03	>97	oxide	metal	4.40
Tin	Sn-119	8.58	>84	oxide	metal	13.45
Tin	Sn-120	32.85	>98	oxide	metal	2.80
Tin	Sn-122	4.72	>92	oxide	metal	22.98
Tin	Sn-124	5.94	>94	oxide	metal	19.70
Titanium	Ti-46	7.93	>96	oxide	crystal bar	20.20
Titanium	Ti-47	7.28	>80-94	oxide	crystal bar	20.16
Titanium	Ti-48	73.94	>99.5	oxide	crystal bar	1.48
Titanium	Ti-49	5.51	>96	oxide	crystal bar	38.37
Titanium	Ti-50	5.34	>96	oxide	crystal bar	29.73
Tungsten	W-180	0.135	>8	oxide	metal powder	76.30
Tungsten	W-182	26.41	>94	oxide	metal powder	1.70
Tungsten	W-183	14.4	>81	oxide	metal powder	2.93
Tungsten	W-184	30.64	>94	oxide	metal powder	1.48
Tungsten	W-186	28.41	>97	oxide	metal powder	1.55
Vanadium	V-50	0.24	36	oxide	none	4892.55

元素名	質量数	Natural abundance (atom%)	Isotopic enrichment (atom%)	主要供給形状	代替供給形状	概算原価 (US\$/mg)
Ytterbium	Yb-168	0.135	13-24	oxide	nitrate,metal	476.78
Ytterbium	Yb-170	3.03	>78	oxide	nitrate,metal	63.61
Ytterbium	Yb-171	14.31	>95	oxide	nitrate,metal	13.48
Ytterbium	Yb-172	21.82	>97	oxide	nitrate,metal	9.91
Ytterbium	Yb-173	16.13	>92	oxide	nitrate,metal	13.41
Ytterbium	Yb-174	31.84	>98	oxide	nitrate,metal	6.60
Ytterbium	Yb-176	12.73	>96	oxide	nitrate,metal	18.53
Zinc	Zn-64	48.89	>99.8	oxide	metal flakes,beads depending on quantity	4.19
Zinc	Zn-66	27.81	>98	oxide	metal flakes,beads depending on quantity	5.23
Zinc	Zn-67	4.11	89-93	oxide	metal flakes,beads depending on quantity	47.32
Zinc	Zn-68	18.57	97-99	oxide	metal flakes,beads depending on quantity	3.83
Zinc	Zn-70	0.62	65-86	oxide	metal flakes,beads depending on quantity	426.65
Zirconium	Zr-90	51.46	97-99	oxide	crystal bar	3.70
Zirconium	Zr-91	11.23	88-94	oxide	crystal bar	20.82
Zirconium	Zr-92	17.11	>98	oxide	crystal bar	12.16
Zirconium	Zr-94	17.40	>98	oxide	crystal bar	12.49
Zirconium	Zr-96	2.80	>95	oxide	crystal bar	134.93

ISC科学 同位体標準液

10B

10B-enriched standard solution

Product details 10B:

Name	10B-enriched standard solution
Reference	IES-B10
Chemical species	B(III)
Isotope	10B (99.7 %)
Form	2 ml in H ₂ O

Isotope	10B	11B
Abundance (%)	99.67	0.33

Especie química	B(III)
Concentración (ug/g as B)	10.11 ± 0.05

53Cr

53Cr-enriched standard solution

Product details 53Cr:

Name	53Cr-enriched standard solution
Reference	IES-Cr53
Chemical species	Chromium nitrate
Isotope	53Cr (92.73 %)
Form	2 ml in HNO ₃ (2%)

Isotope	50Cr	52Cr	53Cr	54Cr
Abundance (%)	0.131	6.449	92.732	0.688

Chemical species	Chromium nitrate
Concentration (ug/g as Cr)	9.93 ± 0.04

57Fe

57Fe-enriched standard solution

Product details 57Fe:

Name	57Fe-enriched standard solution
Reference	IES-Fe57
Chemical species	Iron nitrate
Isotope	57Fe (95.13 %)
Form	2 ml in HNO ₃ (2%)

Isotope	54Fe	56Fe	57Fe	58Fe
Abundance (%)	0.051	3.007	95.125	1.817

Chemical species	Iron nitrate
Concentration (ug/g as Fe)	9.82 ± 0.06

61Ni

61Ni-enriched standard solution

Product details 61Ni:

Name	61Ni-enriched standard solution
Reference	IES-Ni61
Chemical species	Nickel nitrate
Isotope	61Ni (91.27 %)
Form	2 ml in HNO3 (2%)

Isotope	58Ni	60Ni	61Ni	62Ni	64Ni
Abundance (%)	2.971	3.939	91.267	1.719	0.104

Chemical species	Nickel nitrate
Concentration (ug/g as Ni)	11.87 ± 0.08

65Cu

65Cu-enriched standard solution

Product details 65Cu:

Name	65Cu-enriched standard solution
Reference	IES-Cu65
Chemical species	Copper nitrate
Isotope	65Cu (98.46 %)
Form	2 ml in HNO3 (2%)

Isotope	63Cu	65Cu
Abundance (%)	1.542	98.458

Chemical species	Copper nitrate
Concentration (ug/g as Cu)	11.19 ± 0.02

67Zn

67Zn-enriched standard solution

Product details 67Zn:

Name	67Zn-enriched standard solution
Reference	IES-Zn67
Chemical species	Zinc nitrate
Isotope	67Zn (89.61 %)
Form	2 ml in HNO3 (2%)

Isotope	64Zn	66Zn	67Zn	68Zn	70Zn
Abundance (%)	1.65	3.958	89.613	4.779	0.05

Chemical species	Zinc nitrate
Concentration (ug/g as Zn)	11.23 ± 0.05

°IDA Kit

Multielemental spike solution for the analysis of Sea Water samples

Product details WAK:

Name	WAK - Water Analysis Kit for Sea Water samples
Reference	IES-WAK
Form	250 ml solution HNO ₃ (2%)

Element	Isotope (Abundance %)	Application range *
Ba	137 (91.8 %)	0.5 - 100 ug/L
Cd	111 (96.2 %)	0.5 - 100 ug/L
Cr	53 (96.2 %)	0.5 - 100 ug/L
Cu	65 (98.8 %)	0.5 - 100 ug/L
Fe	57 (95.7 %)	0.5 - 100 ug/L
Hg	199 (91.7 %)	0.1 - 20 ug L
Mo	95 (94.4 %)	0.5 - 100 ug/L
Ni	61 (86.2 %)	0.5 - 100 ug/L
Pb	207 (94.6 %)	0.5 - 100 ug/L
Sb	123 (98.8 %)	0.5 - 100 ug/L
Se	77 (99.7 %)	0.5 - 100 ug/L
Sn	119 (90.5 %)	0.5 - 100 ug/L
Tl	203 (97.3 %)	0.5 - 100 ug/L
Zn	67 (89.6 %)	0.5 - 100 ug/L

`CUSTOM` °IDA Kit

下記の混合isotope溶液をご希望の濃度にて調整いたします。詳しくはお問い合わせ下さい。

Producte details: `Custom` OIDA KIT

Element	Isotope (abundance %)
Ag	109 (99.3 %)
B	10 (99.7 %)
Ba	137 (91.8 %)
Cd	111 (96.2 %)
Cr	53 (92.7 %)
Cu	65 (98.5 %)
Fe	57 (95.1 %)
Hg	199 (91.9 %)
Mo	95 (93.8 %)
Ni	61 (91.3 %)
Pb	207 (94.7 %)
Rb	87 (99.1 %)
Sb	123 (98.7 %)
Se	77 (94.9 %)
Sn	119 (90.6 %)
Sr	86 (95.6 %)
Tl	205 (97.3 %)
Zn	67 (89.6 %)

Methylmercury QuantID

201Hg-enriched Methylmercury

Isotopically enriched compound for the analysis of Methylmercury by Isotope Dilution.

Product details MMHg201:

Name	201Hg-enriched Methylmercury
Reference	IES-MMHg201
Chemical species	Monomethylmercury
Isotope	201Hg (96.5 %)
Form	1 ml solution in acetic acid / methanol (3:1)

Isotope	196Hg	198Hg	199Hg	200Hg	201Hg	202Hg	204Hg
Abundance (%)	<0.01	0.04	0.109	0.89	96.495	2.372	0.091

Chemical species	Monomethylmercury	Inorganic mercury
Concentration (ug/g as Hg)	5.494 ± 0.023	0.020 ± 0.002

Butyltin QuantID Kit

119Sn-enriched Butyltin compounds

Isotopically enriched compounds for the analysis of Monobutyltin (MBT), Dibutyltin (DBT) and Tributyltin (TBT) by Isotope Dilution.

Product details MDT119:

Name	119Sn-enriched Butyltin Mix
Reference	IES-MDT119
Chemical species	Monobutyltin (MBT), Dibutyltin (DBT) and Tributyltin (TBT)
Isotope	119Sn (82.4%)
Form	1 ml solution in acetic acid / methanol (3:1)

Isotope	115Sn	116Sn	117Sn	118Sn	119Sn	120Sn	122Sn	124Sn
Abundance (%)	<0.01	0.029	0.114	14.33	82.4	3.13	<0.01	<0.01

Chemical species	Monobutyltin	Dibutyltin	Tributyltin
Concentration (ug/g as Sn)	0.110 ± 0.005	0.691 ± 0.009	1.046 ± 0.020

PBDE QuantID BDE28

81Br-labelled BDE28 (2,4,4'-Tribromodiphenyl ether).

Isotopically labelled Polydiphenyl ethers for Isotope Dilution Analysis.

Product details 81Br-BDE28

Name	81Br-enriched BDE28
Reference	IES-81Br-BDE28
Chemical species	2,4,4'-Tribromodiphenyl ether
Isotope	81Br (99%)
Form	1 ml in Isooctane

Isotope	79	81
Abundance (%)	1.00	99.00

Chemical species	BDE28 (2,4,4'-Tribromodiphenyl ether)
Concentration (ug/ml)	1

PBDE QuantID BDE47

81Br-labelled BDE47 (2,2',4,4'-Tetrabromodiphenyl ether).

Isotopically labelled Polydiphenyl ethers for Isotope Dilution Analysis.

Product details 81Br-BDE47

Name	81Br-enriched BDE47
Reference	IES-81Br-BDE47
Chemical species	2,2',4,4'-Tetrabromodiphenyl ether
Isotope	81Br (99%)
Form	1 ml in Isooctane

Isotope	79	81
Abundance (%)	1.00	99.00

Chemical species	BDE47 (2,2',4,4'-Tetrabromodiphenyl ether)
Concentration (ug/ml)	1

PBDE QuantID BDE99

81Br-labelled BDE99 (2,2',4,4',5-Pentabromodiphenyl ether).

Isotopically labelled Polydiphenyl ethers for Isotope Dilution Analysis.

Product details 81Br-BDE99

Name	81Br-enriched BDE99
Reference	IES-81Br-BDE99
Chemical species	2,2',4,4',5-Pentabromodiphenyl ether
Isotope	81Br (99%)
Form	1 ml in Isooctane

Isotope	79	81
Abundance (%)	1.00	99.00

Chemical species	BDE99 (2,2',4,4',5-Pentabromodiphenyl ether)
Concentration (ug/ml)	1

PBDE QuantID BDE153

81Br-labelled BDE153 (2,2',4,4',5,5'-Hexabromodiphenyl ether).

Isotopically labelled Polydiphenyl ethers for Isotope Dilution Analysis.

Product details 81Br-BDE153

Name	81Br-enriched BDE153
Reference	IES-81Br-BDE153
Chemical species	2,2',4,4',5,5'-Hexabromodiphenyl ether
Isotope	81Br (99%)
Form	1 ml in Isooctane

Isotope	79	81
Abundance (%)	1.00	99.00

Chemical species	BDE153 (2,2',4,4',5,5'-Hexabromodiphenyl ether)
Concentration (ug/ml)	1