

ZAO "Global Scientific Technologies"

Moscow prospect, 112, 196066, St.Petersburg, Russia,

QUALITY CERTIFICATE

Issued May 12, 2009

Supplier: "Center of Molecular Research" Ltd.
 Consignee: "ISOFLEX - USA"
 Weight of material: 3 250.00 gm
 Material name: ^{18}O ENRICHED NORMALIZED WATER H_2^{18}O
 Lot number: LOT №910

Isotope	Value	
	Actual	Guaranty
O-18	98.10%at	≥ 98.0 %at
O-17	0.90%at	≤ 1.0 %at
O-16	1.00%at	≤ 1.0 %at

Test	Specification		Method/Reference
	Actual	Guaranty	
Main substance content is no less:	99.999 %wt.	> 99.99 %wt.	
Appearance	Clear, colorless, free of visible particulate matter		Visual inspection
Conductivity	0.4 $\mu\text{S}/\text{cm}$	< 1 $\mu\text{S}/\text{cm}$	Conductivity meter
pH	7.1	5.5 - 8.0	pH meter
pyrogenicity	< 0.03 EU/ml	< 0.03 EU/ml	LAL test
Sterility	Passes test	Passes test	test
Total Organic Carbon	< 0.5 mg/L	< 1 mg/L	TOC analyzer
H	> 99.9	> 99.9	
D	≈ 0.015	≈ 0.015	
T	$< 5 \cdot 10^{-11}$ Ci/L	$< 5 \cdot 10^{-11}$ Ci/L	

The chemical content on the water specimen			
Element	Measure Impurities Content (mg/L)		Method/Reference
	Actual	Guaranty	
F	< 0.1 mg/L	< 0.5 mg/L	Conductivity meter
Na	0.150 mg/L	< 2 mg/L	ICP MS
Mg	0.0056 mg/L	< 0.05 mg/L	ICP MS
K	0.010 mg/L	< 0.5 mg/L	ICP MS
Ca	0.0011 mg/L	< 0.5 mg/L	ICP MS
Fe	0.010 mg/L	< 0.1 mg/L	ICP MS
Br	0.011 mg/L	< 0.1 mg/L	ICP MS
NH3	< 0.02 mg/L	< 0.1 mg/L	Conductivity meter
Li	0.000063 mg/L	< 0.0005 mg/L	ICP MS
Be	< 0.00001 mg/L	< 0.00005 mg/L	ICP MS
B	0.00011 mg/L	< 0.1 mg/L	ICP MS
Al	0.000015 mg/L	< 0.01 mg/L	ICP MS
Si	0.170 mg/L	< 2 mg/L	ICP MS
Cl	< 0.1 mg/L	< 0.5 mg/L	Conductivity meter
Ti	0.0044 mg/L	< 0.01 mg/L	ICP MS
V	0.00016 mg/L	< 0.0002 mg/L	ICP MS
Cr	0.00002 mg/L	< 0.1 mg/L	ICP MS
Mn	0.00003 mg/L	< 0.005 mg/L	ICP MS
Co	0.0014 mg/L	< 0.002 mg/L	ICP MS
Ni	0.00041 mg/L	< 0.02 mg/L	ICP MS
Cu	0.000025 mg/L	< 0.02 mg/L	ICP MS
Zn	0.079 mg/L	< 0.1 mg/L	ICP MS
Ge	< 0.00001 mg/L	< 0.00005 mg/L	ICP MS
As	< 0.00001 mg/L	< 0.0001 mg/L	ICP MS
Se	< 0.00001 mg/L	< 0.00005 mg/L	ICP MS

Sr	0.00002 mg/L	< 0.001 mg/L	ICP MS
Mo	0.00002 mg/L	< 0.005 mg/L	ICP MS
Ag	< 0.00001 mg/L	< 0.00005 mg/L	ICP MS
Cd	< 0.00001 mg/L	< 0.0001 mg/L	ICP MS
Sn	0.00003 mg/L	< 0.001 mg/L	ICP MS
Sb	< 0.00001 mg/L	< 0.0001 mg/L	ICP MS
Te	< 0.00001 mg/L	< 0.0001 mg/L	ICP MS
Ba	0.000095 mg/L	< 0.001 mg/L	ICP MS
Hg	< 0.00001 mg/L	< 0.0001 mg/L	ICP MS
Tl	< 0.00001 mg/L	< 0.00005 mg/L	ICP MS
Pb	0.000014 mg/L	< 0.0005 mg/L	ICP MS
Bi	< 0.00001 mg/L	< 0.00005 mg/L	ICP MS

Additional Information:

- The total radioactivity of the present water specimen are no more than the natural background (10-15 mkr/h).
- Package size: 50 grams in the borosilicate US standard glass vials with rubber-stoppers and aluminum crimp seals. The vials special sterilized prior to filling.
- Guarantee validity period is no fewer one year from shipment.

General Director

Signature _____

