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P.O. Box 29475
San Francisco, CA 94129

Huayi Isotopes Co.

The leading manufacturer of Oxygen 18 Water & PET Precursors

Certificate of Analysis

Product Name: Oxygen-18 Water 98 %
CAS No.: [14314-42-2]
Lot No.: WT-200401
Manufacturing Date: Apr. 2020
Expiry Date: Apr. 2022

Test	Method	Specifications	Results	Units
Isotopic composition				
O ₁₈	MS	> 98.00	98.58	Atom %
O ₁₇	MS	< 1.00	0.38	Atom %
O ₁₆	MS	< 2.00	1.04	Atom %
Deuterium(D)		Normalized	Normalized	
Chemical composition				
Chemical Purity		> 99.9	99.99	%
Sodium (Na ⁺)	ICP-MS	< 0.1	< 0.01	mg/L
Potassium (K ⁺)	ICP-MS	< 0.1	< 0.01	mg/L
Calcium (Ca ²⁺)	ICP-MS	< 0.05	< 0.01	mg/L
Magnesium (Mg ²⁺)	ICP-MS	< 0.05	< 0.01	mg/L
Iron ions	ICP-MS	< 0.05	< 0.01	mg/L
Copper (Cu ²⁺)	ICP-MS	< 0.05	< 0.01	mg/L
Zinc (Zn ²⁺)	ICP-MS	< 0.05	< 0.05	mg/L
Fluoride (F ⁻)	IC	< 0.1	< 0.1	mg/L
Chloride (Cl ⁻)	IC	< 0.5	< 0.1	mg/L
Bromide (Br ⁻)	IC	< 0.5	< 0.25	mg/L
Nitrate (NO ₃ ⁻)	IC	< 0.5	< 0.25	mg/L
Sulfate (SO ₄ ²⁻)	IC	< 0.5	< 0.5	mg/L
Phosphate (PO ₄ ³⁻)	IC	< 0.5	< 0.5	mg/L
Total Organic Carbon (TOC)	TOC	< 1.0	0.6	mg/L
Appearance	Organoleptic	Clear and colorless liquid	Clear and colorless liquid	N/A
PH	PH meter	6.0 - 8.0	6.5	N/A
Conductivity	Cond. meter	≤ 1.00	0.73	μS/cm
Bacterial Endotoxin	LAL	< 0.25	< 0.25	I.U./ml
Test for sterility	USP	Passed test	Passed test	N/A

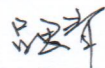
Note

- Manufactured according to requirements of cGMP, ISO 9001 and ISO 14001.
- We certify that all test results meets the acceptable criteria of Huayi specification current QS-WT98%.
- Store the product at room temperature.
- For use by qualified personnel only.

Drafted


Xingqi Huang Date: 2020.04.29

Reviewed


Siqing Lv Date: 2020.04.29

Approved


Jie Shen Date: 2020.04.29