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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-200404

**Manufacturing Date:** Apr. 2020

**Expiry Date:** Apr. 2022

Test	Method	Specifications	Results	Units
<b>Isotopic composition</b>				
O <sub>18</sub>	MS	> 98.00	98.36	Atom %
O <sub>17</sub>	MS	< 1.00	0.43	Atom %
O <sub>16</sub>	MS	< 2.00	1.21	Atom %
Deuterium(D)		Normalized	Normalized	
<b>Chemical composition</b>				
Chemical Purity		> 99.9	99.99	%
Sodium ( Na <sup>+</sup> )	ICP-MS	< 0.1	< 0.01	mg/L
Potassium ( K <sup>+</sup> )	ICP-MS	< 0.1	< 0.01	mg/L
Calcium ( Ca <sup>2+</sup> )	ICP-MS	< 0.05	< 0.01	mg/L
Magnesium ( Mg <sup>2+</sup> )	ICP-MS	< 0.05	< 0.01	mg/L
Iron ions	ICP-MS	< 0.05	< 0.01	mg/L
Copper ( Cu <sup>2+</sup> )	ICP-MS	< 0.05	< 0.01	mg/L
Zinc ( Zn <sup>2+</sup> )	ICP-MS	< 0.05	< 0.01	mg/L
Fluoride ( F <sup>-</sup> )	IC	< 0.1	< 0.1	mg/L
Chloride ( Cl <sup>-</sup> )	IC	< 0.5	< 0.1	mg/L
Bromide ( Br )	IC	< 0.5	< 0.25	mg/L
Nitrate ( NO <sub>3</sub> <sup>-</sup> )	IC	< 0.5	< 0.25	mg/L
Sulfate ( SO <sub>4</sub> <sup>2-</sup> )	IC	< 0.5	< 0.5	mg/L
Phosphate ( PO <sub>4</sub> <sup>3-</sup> )	IC	< 0.5	< 0.5	mg/L
Total Organic Carbon ( TOC )	TOC	< 1.0	0.7	mg/L
Appearance	Organoleptic	Clear and colorless liquid	Clear and colorless liquid	N/A
PH	PH meter	6.0 - 8.0	6.7	N/A
Conductivity	Cond. meter	≤ 1.00	0.53	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**

Kingqi Huang Date: 2020.05.27

**Reviewed**

Siqing Lv Date: 2020.05.27

**Approved**

Jie Shen Date: 2020.05.27