

# PERIODIC TABLE OF ELEMENTS IN THE SEA

KEY																																															
<p>The values shown are median values of reported measurements. Concentrations of the less abundant elements may vary by several orders of magnitude dependent on location.</p>																																															
<ul style="list-style-type: none"> <li>Greater than 1.0 mg/L</li> <li>10<sup>-5</sup>–1.0 mg/L</li> <li>10<sup>-10</sup>–10<sup>-5</sup> mg/L</li> <li>Less than 10<sup>-10</sup> mg/L</li> </ul>																																															
HYDROGEN <b>H</b> 1.08×10 <sup>6</sup> mg/L																	HELIUM <b>He</b> 7×10 <sup>-6</sup> mg/L																														
LITHIUM <b>Li</b> 1.8×10 <sup>-1</sup> mg/L	BERYLLIUM <b>Be</b> 5.6×10 <sup>-6</sup> mg/L															BORON <b>B</b> 4.44 mg/L	CARBON <b>C</b> 2.8×10 <sup>-6</sup> mg/L	NITROGEN <b>N</b> 5.0×10 <sup>-1</sup> mg/L	OXYGEN <b>O</b> 8.57×10 <sup>5</sup> mg/L	FLUORINE <b>F</b> 1.3 mg/L	NEON <b>Ne</b> 1.2×10 <sup>-4</sup> mg/L																										
SODIUM <b>Na</b> 1.08×10 <sup>4</sup> mg/L	MAGNESIUM <b>Mg</b> 1.29×10 <sup>3</sup> mg/L															ALUMINIUM <b>Al</b> 2.0×10 <sup>-3</sup> mg/L	SILICON <b>Si</b> 2.2 mg/L	PHOSPHORUS <b>P</b> 6.0×10 <sup>-2</sup> mg/L	SULFUR <b>S</b> 9.05×10 <sup>2</sup> mg/L	CHLORINE <b>Cl</b> 1.94×10 <sup>4</sup> mg/L	ARGON <b>Ar</b> 4.5×10 <sup>-1</sup> mg/L																										
POTASSIUM <b>K</b> 3.99×10 <sup>2</sup> mg/L	CALCIUM <b>Ca</b> 4.12×10 <sup>2</sup> mg/L	SCANDIUM <b>Sc</b> 6.0×10 <sup>-7</sup> mg/L	TITANIUM <b>Ti</b> 1.0×10 <sup>-3</sup> mg/L	VANADIUM <b>V</b> 2.5×10 <sup>-3</sup> mg/L	CHROMIUM <b>Cr</b> 3.0×10 <sup>-4</sup> mg/L	MANGANESE <b>Mn</b> 2.0×10 <sup>-4</sup> mg/L	IRON <b>Fe</b> 2.0×10 <sup>-3</sup> mg/L	COBALT <b>Co</b> 2.0×10 <sup>-5</sup> mg/L	NICKEL <b>Ni</b> 8.4×10 <sup>1</sup> mg/L	COPPER <b>Cu</b> 2.5×10 <sup>-4</sup> mg/L	ZINC <b>Zn</b> 4.9×10 <sup>-3</sup> mg/L	GALLIUM <b>Ga</b> 3.0×10 <sup>-5</sup> mg/L	GERMANIUM <b>Ge</b> 5.0×10 <sup>-5</sup> mg/L	ARSENIC <b>As</b> 3.7×10 <sup>-3</sup> mg/L	SELENIUM <b>Se</b> 2.0×10 <sup>-4</sup> mg/L	BROMINE <b>Br</b> 6.73×10 <sup>1</sup> mg/L	KRYPTON <b>Kr</b> 2.1×10 <sup>-4</sup> mg/L																														
RUBIDIUM <b>Rb</b> 1.2×10 <sup>-1</sup> mg/L	STRONTIUM <b>Sr</b> 7.9 mg/L	YTTORIUM <b>Y</b> 1.3×10 <sup>-5</sup> mg/L	ZIRCONIUM <b>Zr</b> 3.0×10 <sup>-5</sup> mg/L	NIOBIUM <b>Nb</b> 1.0×10 <sup>-5</sup> mg/L	MOLYBDENUM <b>Mo</b> 1.0×10 <sup>-2</sup> mg/L	TECHNETIUM <b>Tc</b> 0 mg/L	RUTHENIUM <b>Ru</b> 7.0×10 <sup>-7</sup> mg/L	RHODIUM <b>Rh</b> 0 mg/L	PALLADIUM <b>Pd</b> 0 mg/L	SILVER <b>Ag</b> 4.0×10 <sup>-5</sup> mg/L	CADMIUM <b>Cd</b> 1.1×10 <sup>-4</sup> mg/L	INDIUM <b>In</b> 2.0×10 <sup>-2</sup> mg/L	TIN <b>Sn</b> 4.0×10 <sup>-6</sup> mg/L	ANTIMONY <b>Sb</b> 2.4×10 <sup>-4</sup> mg/L	TELLURIUM <b>Te</b> 0 mg/L	IODINE <b>I</b> 6.0×10 <sup>-2</sup> mg/L	XENON <b>Xe</b> 5.0×10 <sup>-5</sup> mg/L																														
HYDROGEN <b>Cs</b> 3.0×10 <sup>-4</sup> mg/L	BARIUM <b>Ba</b> 1.3×10 <sup>-2</sup> mg/L			HAFNIUM <b>Hf</b> 7.0×10 <sup>-6</sup> mg/L	TANTALUM <b>Ta</b> 2.0×10 <sup>-6</sup> mg/L	TUNGSTEN <b>W</b> 1.0×10 <sup>-4</sup> mg/L	RHENIUM <b>Re</b> 4.0×10 <sup>-6</sup> mg/L	OSMIUM <b>Os</b> 0 mg/L	IRIDIUM <b>Ir</b> 0 mg/L	PLATINUM <b>Pt</b> 0 mg/L	GOLD <b>Au</b> 4.0×10 <sup>-6</sup> mg/L	MERCURY <b>Hg</b> 3.0×10 <sup>-6</sup> mg/L	THALLIUM <b>Tl</b> 1.9×10 <sup>-5</sup> mg/L	LEAD <b>Pb</b> 3.0×10 <sup>-5</sup> mg/L	BISMUTH <b>Bi</b> 2.0×10 <sup>-5</sup> mg/L	POLONIUM <b>Po</b> 1.5×10 <sup>-14</sup> mg/L	ASTATINE <b>At</b> 0 mg/L	RADON <b>Rn</b> 6.0×10 <sup>-16</sup> mg/L																													
FRANCIUM <b>Fr</b> 0 mg/L	RADIUM <b>Ra</b> 8.9×10 <sup>-11</sup> mg/L			RUTHERFORDIUM <b>Rf</b> 0 mg/L	DUBNIUM <b>Db</b> 0 mg/L	SEABORGIUM <b>Sg</b> 0 mg/L	BOHRIUM <b>Bh</b> 0 mg/L	HASSIUM <b>Hs</b> 0 mg/L	MEITNERIUM <b>Mt</b> 0 mg/L	DARMSTADIUM <b>Ds</b> 0 mg/L	ROENTGENIUM <b>Rg</b> 0 mg/L	COPERNICIUM <b>Cn</b> 0 mg/L	NIHONIUM <b>Nh</b> 0 mg/L	FLEROVIUM <b>Fl</b> 0 mg/L	MOSCOVIUM <b>Mc</b> 0 mg/L	LIVERMORIUM <b>Lv</b> 0 mg/L	TENNESSINE <b>Ts</b> 0 mg/L	OGANESSON <b>Og</b> 0 mg/L																													
<table border="1"> <tr> <td>LANTHANUM <b>La</b> 3.4×10<sup>-6</sup> mg/L</td> <td>CERIUM <b>Ce</b> 1.2×10<sup>-6</sup> mg/L</td> <td>PRASEODYMIUM <b>Pr</b> 6.4×10<sup>-7</sup> mg/L</td> <td>NEODYMIUM <b>Nd</b> 2.8×10<sup>-6</sup> mg/L</td> <td>PROMETHIUM <b>Pm</b> 0 mg/L</td> <td>SAMARIUM <b>Sm</b> 4.5×10<sup>-7</sup> mg/L</td> <td>EUROPIUM <b>Eu</b> 1.3×10<sup>-7</sup> mg/L</td> <td>GADOLINIUM <b>Gd</b> 7.0×10<sup>-7</sup> mg/L</td> <td>TERBIUM <b>Tb</b> 1.4×10<sup>-7</sup> mg/L</td> <td>DYSPROSIUM <b>Dy</b> 9.1×10<sup>-7</sup> mg/L</td> <td>HOLMIUM <b>Ho</b> 2.2×10<sup>-7</sup> mg/L</td> <td>ERBIUM <b>Er</b> 8.7×10<sup>-7</sup> mg/L</td> <td>THULIUM <b>Tm</b> 1.7×10<sup>-7</sup> mg/L</td> <td>YTTERIUM <b>Yb</b> 8.2×10<sup>-7</sup> mg/L</td> <td>LUTETIUM <b>Lu</b> 1.5×10<sup>-7</sup> mg/L</td> </tr> <tr> <td>ACTINIUM <b>Ac</b> 0 mg/L</td> <td>THORIUM <b>Th</b> 1.0×10<sup>-6</sup> mg/L</td> <td>PROTACTINIUM <b>Pa</b> 5.0×10<sup>-11</sup> mg/L</td> <td>URANIUM <b>U</b> 3.2×10<sup>-3</sup> mg/L</td> <td>NEPTUNIUM <b>Np</b> 0 mg/L</td> <td>PLUTONIUM <b>Pu</b> 0 mg/L</td> <td>AMERICIUM <b>Am</b> ? mg/L</td> <td>CURIUM <b>Cm</b> 0 mg/L</td> <td>BERKELIUM <b>Bk</b> 0 mg/L</td> <td>CALIFORNIUM <b>Cf</b> 0 mg/L</td> <td>EINSTEINIUM <b>Es</b> 0 mg/L</td> <td>FERMIUM <b>Fm</b> 0 mg/L</td> <td>MENDELEVIUM <b>Md</b> 0 mg/L</td> <td>NOBELIUM <b>No</b> 0 mg/L</td> <td>LAWRENCIUM <b>Lr</b> 0 mg/L</td> </tr> </table>																		LANTHANUM <b>La</b> 3.4×10 <sup>-6</sup> mg/L	CERIUM <b>Ce</b> 1.2×10 <sup>-6</sup> mg/L	PRASEODYMIUM <b>Pr</b> 6.4×10 <sup>-7</sup> mg/L	NEODYMIUM <b>Nd</b> 2.8×10 <sup>-6</sup> mg/L	PROMETHIUM <b>Pm</b> 0 mg/L	SAMARIUM <b>Sm</b> 4.5×10 <sup>-7</sup> mg/L	EUROPIUM <b>Eu</b> 1.3×10 <sup>-7</sup> mg/L	GADOLINIUM <b>Gd</b> 7.0×10 <sup>-7</sup> mg/L	TERBIUM <b>Tb</b> 1.4×10 <sup>-7</sup> mg/L	DYSPROSIUM <b>Dy</b> 9.1×10 <sup>-7</sup> mg/L	HOLMIUM <b>Ho</b> 2.2×10 <sup>-7</sup> mg/L	ERBIUM <b>Er</b> 8.7×10 <sup>-7</sup> mg/L	THULIUM <b>Tm</b> 1.7×10 <sup>-7</sup> mg/L	YTTERIUM <b>Yb</b> 8.2×10 <sup>-7</sup> mg/L	LUTETIUM <b>Lu</b> 1.5×10 <sup>-7</sup> mg/L	ACTINIUM <b>Ac</b> 0 mg/L	THORIUM <b>Th</b> 1.0×10 <sup>-6</sup> mg/L	PROTACTINIUM <b>Pa</b> 5.0×10 <sup>-11</sup> mg/L	URANIUM <b>U</b> 3.2×10 <sup>-3</sup> mg/L	NEPTUNIUM <b>Np</b> 0 mg/L	PLUTONIUM <b>Pu</b> 0 mg/L	AMERICIUM <b>Am</b> ? mg/L	CURIUM <b>Cm</b> 0 mg/L	BERKELIUM <b>Bk</b> 0 mg/L	CALIFORNIUM <b>Cf</b> 0 mg/L	EINSTEINIUM <b>Es</b> 0 mg/L	FERMIUM <b>Fm</b> 0 mg/L	MENDELEVIUM <b>Md</b> 0 mg/L	NOBELIUM <b>No</b> 0 mg/L	LAWRENCIUM <b>Lr</b> 0 mg/L
LANTHANUM <b>La</b> 3.4×10 <sup>-6</sup> mg/L	CERIUM <b>Ce</b> 1.2×10 <sup>-6</sup> mg/L	PRASEODYMIUM <b>Pr</b> 6.4×10 <sup>-7</sup> mg/L	NEODYMIUM <b>Nd</b> 2.8×10 <sup>-6</sup> mg/L	PROMETHIUM <b>Pm</b> 0 mg/L	SAMARIUM <b>Sm</b> 4.5×10 <sup>-7</sup> mg/L	EUROPIUM <b>Eu</b> 1.3×10 <sup>-7</sup> mg/L	GADOLINIUM <b>Gd</b> 7.0×10 <sup>-7</sup> mg/L	TERBIUM <b>Tb</b> 1.4×10 <sup>-7</sup> mg/L	DYSPROSIUM <b>Dy</b> 9.1×10 <sup>-7</sup> mg/L	HOLMIUM <b>Ho</b> 2.2×10 <sup>-7</sup> mg/L	ERBIUM <b>Er</b> 8.7×10 <sup>-7</sup> mg/L	THULIUM <b>Tm</b> 1.7×10 <sup>-7</sup> mg/L	YTTERIUM <b>Yb</b> 8.2×10 <sup>-7</sup> mg/L	LUTETIUM <b>Lu</b> 1.5×10 <sup>-7</sup> mg/L																																	
ACTINIUM <b>Ac</b> 0 mg/L	THORIUM <b>Th</b> 1.0×10 <sup>-6</sup> mg/L	PROTACTINIUM <b>Pa</b> 5.0×10 <sup>-11</sup> mg/L	URANIUM <b>U</b> 3.2×10 <sup>-3</sup> mg/L	NEPTUNIUM <b>Np</b> 0 mg/L	PLUTONIUM <b>Pu</b> 0 mg/L	AMERICIUM <b>Am</b> ? mg/L	CURIUM <b>Cm</b> 0 mg/L	BERKELIUM <b>Bk</b> 0 mg/L	CALIFORNIUM <b>Cf</b> 0 mg/L	EINSTEINIUM <b>Es</b> 0 mg/L	FERMIUM <b>Fm</b> 0 mg/L	MENDELEVIUM <b>Md</b> 0 mg/L	NOBELIUM <b>No</b> 0 mg/L	LAWRENCIUM <b>Lr</b> 0 mg/L																																	

Based on data from *CRC Handbook of Chemistry and Physics*, 97th edition (2016–2017), p. 14-17

