

^{18}O for Medical Applications



Oxygen-18 is used to create tailored organo-chemical compounds labelled with the radio isotope ^{18}F (for example, 2-fluoro-2-deoxy glucose [^{18}F FDG]).

These are used for Positron Emission Tomography (PET), the latest cancer diagnostic technique.

Production of Oxygen-18 is cGMP approved in compliance with the requirements of 21 Code of Federal Regulations: PARTS 210 and 211

Specification

- Material ^{18}O - Oxygen 18
in form of water
- Isotopic content ^{18}O > 98.0 at %
 ^{17}O < 2 at %
 ^{16}O < 2 at %
- Purity > 99.9 wt %
- TOC $\leq 1 \mu\text{g/g}$
- pH 6 - 8
- Conductivity $\leq 2 \mu\text{S/cm}$
- Pyrogen < 0.25 EU/ml
- Sterility passed

Impurities in $\mu\text{g/g}$

Cations

Al	≤ 0.05
Ca	≤ 0.1
Cu	≤ 0.01
Fe	≤ 0.01
K	≤ 0.1
Mg	≤ 0.05
Na	≤ 1
Si	≤ 1
Zn	≤ 0.05

Anions

Br	≤ 0.5
Cl	≤ 0.5
F	≤ 0.05
NO_2	≤ 0.1
NO_3	≤ 0.05
PO_4	≤ 0.05
SO_4	≤ 0.1

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