

Lu-177 Fact Sheet

Lutetium-177 Radiochemical Chloride Solution

Lutetium-177 Chloride

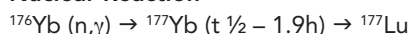
Half-Life: 6.65 days

Lutetium-177 Radiochemical Chloride Solution

Belonging to the group of rare earth isotopes, lutetium-177 is increasingly being used in therapeutic research studies. Lutetium-177 is an ideal isotope for radiopharmaceutical therapy since its half-life allows the application of more sophisticated procedures to purify and synthesize the radiopharmaceutical for commercial use. Its longer half-life also makes it easier to combine with numerous biologically active compounds. Lutetium-177 is a low-energy beta emitter, providing a tissue penetration range that may be more effective for smaller tumors. Lutetium-177 also emits gamma radiation that enables diagnostic imaging of tissue. It offers radiophysical properties similar to iodine-131 and is a complement to yttrium-90.

Process Data

Nuclear Reaction



Assay

High resolution gamma spectrometry

Product Specification

Chemical Composition

^{177}Lu as LuCl_3 in 0.05 M HCl

Effective Specific Activity*

≥ 45 mCi/ μg of Lanthanides
No carrier added

Activity Concentration*

≥ 200 mCi/mL

Radionuclidic Purity

$\geq 99.9\%$ ^{177}Lu , $\leq 0.1\%$ ^{175}Yb

*Activity concentration and effective specific activity are at customer's calibration.

Packaging

- Octovial – plastic outer vial, quartz glass inner V-vial
- Square glass bottle with octagonal screwcap (15 mL)

Availability

Please inquire

Product Origin

Please inquire

World Class Delivery Service

MDS Nordion has a world class distribution system that includes a unique, software-based order management system. Carefully managed transportation logistics ensure products reach their destination on time.

Please note that the radiochemicals listed are not tested for sterility or pyrogenicity. Verification of their suitability for use in humans is the sole responsibility of the purchaser.

Lutetium-177 Decay Table Half-Life: 6.65 days

HOURS:	0	1	2	3	4	5	6	7	8	9
0	1.0000	0.9957	0.9914	0.9871	0.9828	0.9786	0.9743	0.9701	0.9659	0.9618
10	0.9576	0.9535	0.9493	0.9452	0.9412	0.9371	0.9330	0.9290	0.9250	0.9210
20	0.9170	0.9130	0.9091	0.9052	0.9013	0.8974	0.8935	0.8896	0.8858	0.8819
30	0.8781	0.8743	0.8706	0.8668	0.8630	0.8593	0.8556	0.8519	0.8482	0.8445
40	0.8409	0.8373	0.8336	0.8300	0.8265	0.8229	0.8193	0.8158	0.8123	0.8087
50	0.8052	0.8018	0.7983	0.7948	0.7914	0.7880	0.7846	0.7812	0.7778	0.7745
60	0.7711	0.7678	0.7645	0.7611	0.7579	0.7546	0.7513	0.7481	0.7448	0.7416
70	0.7384	0.7352	0.7320	0.7289	0.7257	0.7226	0.7195	0.7164	0.7133	0.7102
80	0.7071	0.7041	0.7010	0.6980	0.6950	0.6920	0.6890	0.6860	0.6830	0.6801
90	0.6771	0.6742	0.6713	0.6684	0.6655	0.6626	0.6598	0.6569	0.6541	0.6512
100	0.6484	0.6456	0.6428	0.6400	0.6373	0.6345	0.6318	0.6291	0.6263	0.6236
110	0.6209	0.6182	0.6156	0.6129	0.6103	0.6076	0.6050	0.6024	0.5998	0.5972
120	0.5946	0.5920	0.5895	0.5869	0.5844	0.5819	0.5793	0.5768	0.5743	0.5719
130	0.5694	0.5669	0.5645	0.5620	0.5596	0.5572	0.5548	0.5524	0.5500	0.5476
140	0.5453	0.5429	0.5406	0.5382	0.5359	0.5336	0.5313	0.5290	0.5267	0.5244
150	0.5221	0.5199	0.5176	0.5154	0.5132	0.5109	0.5087	0.5065	0.5044	0.5022
160	0.5000	0.4978	0.4957	0.4935	0.4914	0.4893	0.4872	0.4851	0.4830	0.4809
170	0.4788	0.4767	0.4747	0.4726	0.4706	0.4685	0.4665	0.4645	0.4625	0.4605
180	0.4585	0.4565	0.4545	0.4526	0.4506	0.4487	0.4467	0.4448	0.4429	0.4410
190	0.4391	0.4372	0.4353	0.4334	0.4315	0.4297	0.4278	0.4259	0.4241	0.4223

The half-life values stated are as of time of publication. MDS Nordion values may vary.

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