

I-131 Fact Sheet

Iodine-131 Fission Radiochemical Sodium Iodide Solution

Sodium Iodide (I-131) (fission)

Half-Life: 8.02 days

Iodine-131 Fission Radiochemical Sodium Iodide Solution

Iodine-131 is produced by the neutron bombardment of uranium-235.

Iodine-131, with a half-life of 8.02 days, is used in the manufacturing of radiopharmaceuticals for a variety of applications. These include diagnostic and therapeutic thyroid applications (in either a solution or capsule form), industrial tracers, and various research applications such as antibody labelling. Iodine-131 is also used to label antibodies for therapeutic applications in the treatment of cancers.

MDS Nordion has an unparalleled base of technical expertise and production capabilities. State-of-the-art facilities provide a reliable supply of isotopes to customers around the world.

Process Data

Nuclear Reaction

^{235}U (n,f)

Product Specification

Chemical Form

^{131}I as sodium iodide in ~ 0.05N NaOH solution or in phosphate buffer

Specific Activity

No carrier added

Radionuclidic Purity

≥ 99.9%

Radiochemical Purity

≥ 97%

Packaging

- Conical vial (2 mL)
- Vials (10 mL, 30 mL)

Availability

Available daily

Product Origin

Fleurus, Belgium

First 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.

Iodine-131 Decay Table Half-Life: 8.02 days

HOURS:	0	4	8	12	16	20	24	28	32	36	40	44
0	1.0000	0.9857	0.9716	0.9577	0.9440	0.9305	0.9172	0.9041	0.8912	0.8784	0.8658	0.8535
2	0.8413	0.8292	0.8174	0.8057	0.7942	0.7828	0.7716	0.7606	0.7497	0.7390	0.7284	0.7180
4	0.7077	0.6976	0.6876	0.6778	0.6681	0.6585	0.6491	0.6398	0.6307	0.6217	0.6128	0.6040
6	0.5954	0.5869	0.5785	0.5702	0.5620	0.5540	0.5461	0.5383	0.5306	0.5230	0.5155	0.5081
8	0.5009	0.4937	0.4866	0.4797	0.4728	0.4661	0.4594	0.4528	0.4463	0.4400	0.4337	0.4275
10	0.4214	0.4153	0.4094	0.4035	0.3978	0.3921	0.3865	0.3809	0.3755	0.3701	0.3648	0.3596
12	0.3545	0.3494	0.3444	0.3395	0.3346	0.3298	0.3251	0.3205	0.3159	0.3114	0.3069	0.3025
14	0.2982	0.2939	0.2897	0.2856	0.2815	0.2775	0.2735	0.2696	0.2657	0.2619	0.2582	0.2545
16	0.2509	0.2473	0.2437	0.2403	0.2368	0.2334	0.2301	0.2268	0.2236	0.2204	0.2172	0.2141
18	0.2110	0.2080	0.2050	0.2021	0.1992	0.1964	0.1936	0.1908	0.1881	0.1854	0.1827	0.1801
20	0.1775	0.1750	0.1725	0.1700	0.1676	0.1652	0.1628	0.1605	0.1582	0.1560	0.1537	0.1515
22	0.1494	0.1472	0.1451	0.1430	0.1410	0.1390	0.1370	0.1350	0.1331	0.1312	0.1293	0.1275
24	0.1256	0.1239	0.1221	0.1203	0.1186	0.1169	0.1152	0.1136	0.1120	0.1104	0.1088	0.1072
26	0.1057	0.1042	0.1027	0.1012	0.0998	0.0984	0.0970	0.0956	0.0942	0.0929	0.0915	0.0902
28	0.0889	0.0877	0.0864	0.0852	0.0839	0.0827	0.0816	0.0804	0.0792	0.0781	0.0770	0.0759
30	0.0748	0.0737	0.0727	0.0716	0.0706	0.0696	0.0686	0.0676	0.0667	0.0657	0.0648	0.0638
32	0.0629	0.0620	0.0611	0.0603	0.0594	0.0586	0.0577	0.0569	0.0561	0.0553	0.0545	0.0537
34	0.0529	0.0522	0.0514	0.0507	0.0500	0.0493	0.0486	0.0479	0.0472	0.0465	0.0458	0.0452
36	0.0445	0.0439	0.0433	0.0427	0.0420	0.0414	0.0409	0.0403	0.0397	0.0391	0.0386	0.0380
38	0.0375	0.0369	0.0364	0.0359	0.0354	0.0349	0.0344	0.0339	0.0334	0.0329	0.0324	0.0320

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

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