

I-123 Fact Sheet

Iodine-123 Radiochemical Sodium Iodide Solution

Sodium Iodide (I-123) Solution

Half-Life: 13.2 hours

Iodine-123 Radiochemical Sodium Iodide Solution

Iodine-123 is produced in a cyclotron by the proton bombardment of xenon-124.

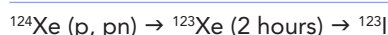
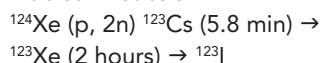
Iodine-123, with a half-life of 13.2 hours and a gamma emission at 159 keV, is mainly used in the manufacturing of radiopharmaceuticals for diagnostic applications and in research applications.

The ability of iodine to covalently bind to diverse molecules makes it an ideal candidate for the radiolabelling of many substances such as antibodies or neurotransmitters. Its very high specific activity allows for its use in many applications which involve receptor based uptake mechanisms.

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



Product Specification

Chemical Form

^{123}I as sodium iodide in dilute NaOH solution

Specific Activity

No carrier added

Radionuclidic Purity

$^{123}\text{I} \geq 99.8\%$ at 7:00 a.m. CET, the third day after manufacturing

Radiochemical Purity

$\geq 95\%$ as iodide

Calibration Date

1 day post-shipment at 12:00 a.m. CET

Shipment Day

Manufacturing day

Packaging

Conical vial (2 mL)

Availability

Dispatch from Fleurus on Monday, Tuesday and Wednesday

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-123 Decay Table Half-Life: 13.2 hours

HOURS:	0	0.25	0.5	0.75	1	1.25	1.5	1.75	2	2.25	2.5	2.75
0	1.0000	0.9870	0.9741	0.9614	0.9488	0.9365	0.9243	0.9122	0.9003	0.8886	0.8770	0.8655
3	0.8542	0.8431	0.8321	0.8213	0.8105	0.8000	0.7895	0.7792	0.7691	0.7591	0.7492	0.7394
6	0.7297	0.7202	0.7108	0.7016	0.6924	0.6834	0.6745	0.6657	0.6570	0.6484	0.6400	0.6316
9	0.6234	0.6152	0.6072	0.5993	0.5915	0.5838	0.5762	0.5686	0.5612	0.5539	0.5467	0.5396
12	0.5325	0.5256	0.5187	0.5120	0.5053	0.4987	0.4922	0.4858	0.4794	0.4732	0.4670	0.4609
15	0.4549	0.4490	0.4431	0.4373	0.4316	0.4260	0.4204	0.4150	0.4096	0.4042	0.3989	0.3937
18	0.3886	0.3835	0.3785	0.3736	0.3687	0.3639	0.3592	0.3545	0.3499	0.3453	0.3408	0.3363
21	0.3320	0.3276	0.3234	0.3191	0.3150	0.3109	0.3068	0.3028	0.2989	0.2950	0.2911	0.2873
24	0.2836	0.2799	0.2762	0.2726	0.2691	0.2656	0.2621	0.2587	0.2553	0.2520	0.2487	0.2454
27	0.2422	0.2391	0.2360	0.2329	0.2299	0.2269	0.2239	0.2210	0.2181	0.2152	0.2124	0.2097
30	0.2069	0.2042	0.2016	0.1989	0.1964	0.1938	0.1913	0.1888	0.1863	0.1839	0.1815	0.1791
33	0.1768	0.1745	0.1722	0.1699	0.1677	0.1655	0.1634	0.1613	0.1592	0.1571	0.1550	0.1530
36	0.1510	0.1490	0.1471	0.1452	0.1433	0.1414	0.1396	0.1378	0.1360	0.1342	0.1324	0.1307
39	0.1290	0.1273	0.1257	0.1240	0.1224	0.1208	0.1192	0.1177	0.1161	0.1146	0.1131	0.1117
42	0.1102	0.1088	0.1073	0.1059	0.1046	0.1032	0.1019	0.1005	0.0992	0.0979	0.0966	0.0954
45	0.0941	0.0929	0.0917	0.0905	0.0893	0.0882	0.0870	0.0859	0.0848	0.0836	0.0826	0.0815
48	0.0804	0.0794	0.0783	0.0773	0.0763	0.0753	0.0743	0.0734	0.0724	0.0715	0.0705	0.0696
51	0.0687	0.0678	0.0669	0.0660	0.0652	0.0643	0.0635	0.0627	0.0618	0.0610	0.0602	0.0595
54	0.0587	0.0579	0.0572	0.0564	0.0557	0.0550	0.0542	0.0535	0.0528	0.0521	0.0515	0.0508
57	0.0501	0.0495	0.0488	0.0482	0.0479	0.0469	0.0463	0.0457	0.0451	0.0445	0.0440	0.0434

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

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