

HASTELLOY[®] B-3[®] alloy

Selected Corrosion Data

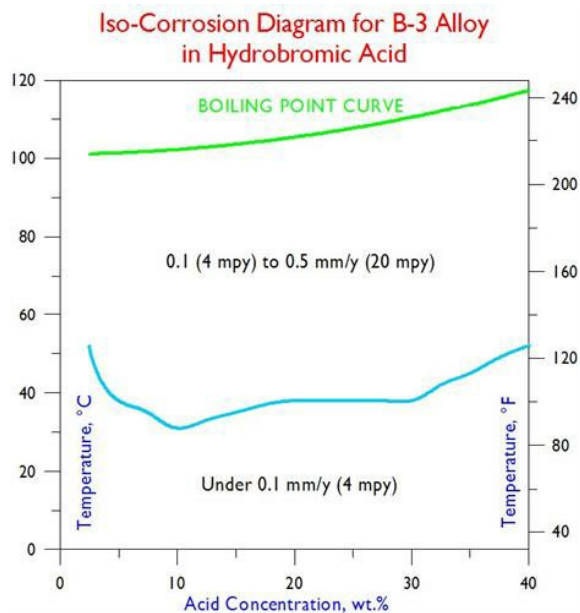
Hydrobromic Acid

Conc. Wt.%	50°F	75°F	100°F	125°F	150°F	175°F	200°F	225°F	Boiling
	10°C	24°C	38°C	52°C	66°C	79°C	93°C	107°C	
2.5	-	-	0.07	0.11	0.26	-	0.24	-	0.02
5	-	0.04	0.10	-	0.27	-	0.25	-	0.03
7.5	-	-	-	-	-	-	-	-	-
10	-	0.05	0.15	-	0.29	-	0.28	-	0.10
15	-	-	-	-	-	-	-	-	-
20	-	0.04	0.12	0.19	0.27	-	0.27	-	0.10
25	-	-	-	-	-	-	-	-	-
30	-	0.03	0.10	0.15	0.20	-	0.29	-	0.29
40	-	0.02	0.06	0.11	0.16	-	0.25	-	0.43

All corrosion rates are in millimeters per year (mm/y); to convert to mils (thousandths of an inch) per year, divide by 0.0254.

Data are from Corrosion Laboratory Jobs 71-97, 26-99, and 49-99.

All tests were performed in reagent grade acids under laboratory conditions; field tests are encouraged prior to industrial use.



Hydrochloric Acid

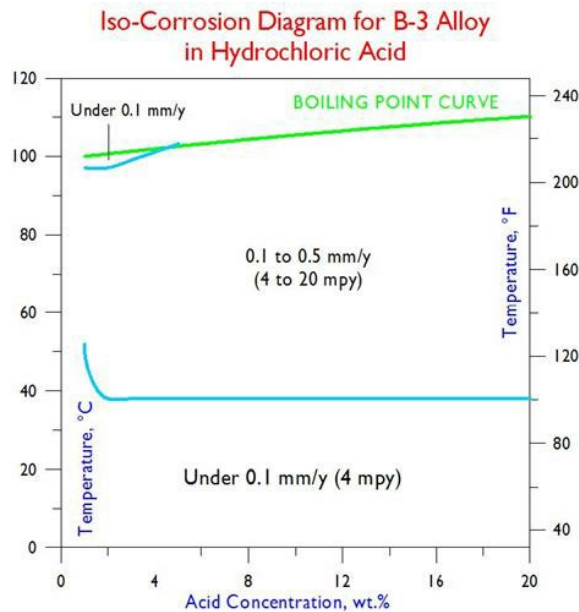
Conc. Wt.%	50°F	75°F	100°F	125°F	150°F	175°F	200°F	225°F	Boiling
	10°C	24°C	38°C	52°C	66°C	79°C	93°C	107°C	
1	-	-	0.07	0.11	0.18	-	0.21	-	0.01
1.5	-	-	-	-	-	-	-	-	-
2	-	-	0.10	0.16	0.21	-	0.26	-	0.04

2.5	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-
3.5	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-
4.5	-	-	-	-	-	-	-	-	-
5	-	-	0.11	0.19	0.25	-	0.30	-	0.08
7.5	-	-	-	-	-	-	-	-	-
10	-	-	0.13	0.20	0.24	-	0.29	-	0.13
15	-	-	0.10	0.18	0.23	-	0.28	-	0.21
20	-	-	0.10	0.15	0.21	-	0.30	-	0.29

All corrosion rates are in millimeters per year (mm/y); to convert to mils (thousandths of an inch) per year, divide by 0.0254.

Data are from Corrosion Laboratory Jobs 37-92, 30-94, and 42-95.

All tests were performed in reagent grade acids under laboratory conditions; field tests are encouraged prior to industrial use.



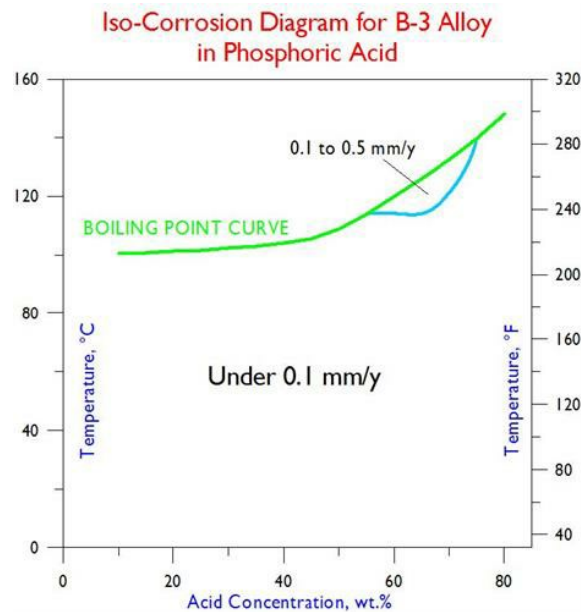
Phosphoric Acid

Conc. Wt.%	125°F	150°F	175°F	200°F	225°F	250°F	275°F	300°F	Boiling
	52°C	66°C	79°C	93°C	107°C	121°C	135°C	149°C	
10	-	-	-	-	-	-	-	-	0.07
30	-	-	-	-	-	-	-	-	0.07
50	-	-	-	0.03	-	-	-	-	0.09
60	-	-	-	0.03	-	-	-	-	0.14
65	-	-	-	-	-	-	-	-	-
70	-	-	-	0.02	-	0.08	-	-	0.21
75	-	-	-	-	-	-	0.04	-	-
80	-	-	-	0.02	-	0.09	0.05	-	0.04
85	-	-	-	0.02	-	0.07	0.04	0.08	0.10

All corrosion rates are in millimeters per year (mm/y); to convert to mils (thousandths of an inch) per year, divide by 0.0254.

Data are from Corrosion Laboratory Jobs 113-92, 31-94, and 47-97.

All tests were performed in reagent grade acids under laboratory conditions; field tests are encouraged prior to industrial use.



Sulfuric Acid

Conc. Wt.%	75°F	100°F	125°F	150°F	175°F	200°F	225°F	250°F	275°F	300°F	350°F	Boiling
	24°C	38°C	52°C	66°C	79°C	93°C	107°C	121°C	135°C	149°C	177°C	
1	-	-	-	-	-	-	-	-	-	-	-	-
2	-	0.07	0.09	0.13	0.11	0.10	-	-	-	-	-	0.01
3	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-
5	-	0.07	0.08	0.15	0.13	0.11	-	-	-	-	-	0.01
10	-	0.04	0.08	0.11	0.11	0.11	-	-	-	-	-	0.01
20	-	0.03	-	0.08	-	0.11	-	-	-	-	-	0.02
30	-	0.02	-	0.06	-	0.09	-	-	-	-	-	0.02
40	-	-	-	0.03	-	0.06	-	-	-	-	-	0.02
50	-	-	-	0.03	-	0.04	-	-	-	-	-	0.03
60	-	-	-	0.02	-	0.03	-	-	-	-	-	0.05
70	-	-	-	-	-	0.01	-	0.03	-	0.11	-	0.15
80	-	-	-	-	-	0.01	-	0.03	-	0.08	0.44	4.76
90	-	-	-	-	-	0.02	-	0.05	0.11	0.14	0.76	-
96	-	-	-	-	-	0.02	-	0.09	0.22	0.35	2.59	-

All corrosion rates are in millimeters per year (mm/y); to convert to mils (thousandths of an inch) per year, divide by 0.0254.

Data are from Corrosion Laboratory Jobs 37-92, 29-94, 47-94, 42-95, and 14-96.

All tests were performed in reagent grade acids under laboratory conditions; field tests are encouraged prior to industrial use.

Sulfuric B-3

Reagent Grade Solutions, mm/y

Chemical	Conc.	100°F	125°F	150°F	175°F	200°F	Boiling
		38°C	52°C	66°C	79°C	93°C	
Acetic Acid	10	-	-	-	-	-	0.01
	30	-	-	-	-	-	0.01
	50	-	-	-	-	-	0.01
	70	-	-	-	-	-	0.01
	99	-	-	-	-	-	0.02
Formic Acid	10	-	-	-	-	-	0.01
	20	-	-	-	-	-	0.02
	30	-	-	-	-	-	0.02
	40	-	-	-	-	-	0.01
	60	-	-	-	-	-	0.01
	89	-	-	-	-	-	0.01
Hydrobromic Acid	2.5	0.07	0.11	0.26	-	0.24	0.02
	5	0.10	-	0.27	-	0.25	0.03
	10	0.15	-	0.29	-	0.28	0.10
	20	0.12	0.19	0.27	-	0.27	0.10
	30	0.10	0.15	0.20	-	0.29	0.29
	40	0.06	0.11	0.16	-	0.25	0.43
Hydrochloric Acid	1	0.07	0.11	0.18	-	0.21	0.01
	2	0.10	0.16	0.21	-	0.26	0.04
	5	0.11	0.19	0.25	-	0.30	0.08
	10	0.13	0.20	0.24	-	0.29	0.13
	15	0.10	0.18	0.23	-	0.28	0.21
	20	0.10	0.15	0.21	-	0.30	0.29
Phosphoric Acid	10	-	-	-	-	-	0.07
	30	-	-	-	-	-	0.07
	50	-	-	-	-	0.03	0.09
	60	-	-	-	-	0.03	0.14
	70	-	-	-	-	0.02	0.21
	80	-	-	-	-	0.02	0.04
	85	-	-	-	-	0.02	0.10
Sulfuric Acid	10	0.04	0.08	0.11	0.11	0.11	0.01
	20	0.03	-	0.08	-	0.11	0.02
	30	0.02	-	0.06	-	0.09	0.02
	40	-	-	0.03	-	0.06	0.02
	50	-	-	0.03	-	0.04	0.03
	60	-	-	0.02	-	0.03	0.05
	70	-	-	-	-	0.01	0.15
	80	-	-	-	-	0.01	4.76
	90	-	-	-	-	0.02	-
	96	-	-	-	-	0.02	-

