

Hydrofluoric Acid 49%

Semiconductor grade 1, 2, and 3

HF CONTENT	SEMICONDUCTOR GRADES	DRUM, NET	SHELF LIFE	CAS NO.
48.8 – 49.2 wt %	1 · 2 · 3	235 kg	1 year	7664-39-3

Specification limits for Hydrofluoric Acid 49% in semiconductor grades 1, 2, and 3. Characteristic data, trace metal impurities, and particulate count are listed by grade below.

\$1 CHARACTERISTIC DATA

PARAMETER	UNIT	GRADE 1	GRADE 2	GRADE 3
HF	wt %	48.8 – 49.2	48.8 – 49.2	48.8 – 49.2
Color	APHA	≤ 10	≤ 5	≤ 5
H ₂ SiF ₆	ppm	≤ 5	≤ 1	≤ 1
Cl	ppb	≤ 20	≤ 10	≤ 10
NO ₃	ppb	≤ 20	≤ 10	≤ 10
PO ₄	ppb	≤ 20	≤ 10	≤ 10
SO ₄	ppb	≤ 50	≤ 10	≤ 10

\$2 PARTICULATE COUNT

pcs/mL. Grade 3 is specified on a different particle size basis than grades 1 and 2.

PARTICLE SIZE	GRADE 1	GRADE 2	GRADE 3
Particles ≥ 0.2 micron	≤ 100	≤ 100	No data
Particles ≥ 0.3 micron	≤ 20	≤ 20	No data
Particles ≥ 0.5 micron	≤ 5	≤ 5	No data
Particles ≥ 1.0 micron	≤ 1	≤ 1	No data
Particles ≥ 0.05 micron	No data	No data	≤ 250
Particles ≥ 0.1 micron	No data	No data	≤ 80
Particles ≥ 0.2 micron	No data	No data	≤ 40
Particles ≥ 0.5 micron	No data	No data	≤ 1

§3 IMPURITIES · TRACE METALS, PPB

ELEMENT	GRADE 1	GRADE 2	GRADE 3	ELEMENT	GRADE 1	GRADE 2	GRADE 3
Al	≤ 1	≤ 0.1	≤ 0.01	Li	≤ 1	≤ 0.1	≤ 0.01
Sb	≤ 1	≤ 0.1	≤ 0.01	Mg	≤ 1	≤ 0.1	≤ 0.01
As	≤ 1	≤ 0.1	≤ 0.01	Mn	≤ 1	≤ 0.1	≤ 0.01
Ba	≤ 1	≤ 0.1	≤ 0.01	Mo	≤ 1	≤ 0.1	≤ 0.01
Be	≤ 1	≤ 0.1	≤ 0.01	Ni	≤ 1	≤ 0.1	≤ 0.01
Bi	≤ 1	≤ 0.1	≤ 0.01	Nb	≤ 1	≤ 0.1	≤ 0.01
B	≤ 1	≤ 0.1	≤ 0.01	K	≤ 1	≤ 0.1	≤ 0.01
Cd	≤ 1	≤ 0.1	≤ 0.01	Ag	≤ 1	≤ 0.1	≤ 0.01
Ca	≤ 1	≤ 0.1	≤ 0.01	Na	≤ 1	≤ 0.1	≤ 0.01
Cr	≤ 1	≤ 0.1	≤ 0.01	Sr	≤ 1	≤ 0.1	≤ 0.01
Co	≤ 1	≤ 0.1	≤ 0.01	Ta	≤ 1	≤ 0.1	≤ 0.01
Cu	≤ 1	≤ 0.1	≤ 0.01	Tl	≤ 1	≤ 0.1	≤ 0.01
Ga	≤ 1	≤ 0.1	≤ 0.01	Sn	≤ 1	≤ 0.1	≤ 0.01
Ge	≤ 1	≤ 0.1	≤ 0.01	Ti	≤ 1	≤ 0.1	≤ 0.01
Au	≤ 1	≤ 0.1	≤ 0.01	V	≤ 1	≤ 0.1	≤ 0.01
Fe	≤ 1	≤ 0.1	≤ 0.01	Zn	≤ 1	≤ 0.1	≤ 0.01
Pb	≤ 1	≤ 0.1	≤ 0.01	Zr	≤ 1	≤ 0.1	≤ 0.01

§4 DESCRIPTIVE DATA

APPEARANCE	Colorless Transparent
ODOR	Typical of Hydrofluoric Acid

§5 PACKAGING AND STORAGE

PACKAGING	235 net kg new poly drums. Drums must have proper hazardous markings, UN# and placards.
STORAGE	Consult SDS for storage and disposal.
SHELF LIFE	1 year

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