

**Hydrofluoric acid, 48%, Ultratrace®, ppb-trace analysis grade****Identification**

HF  
M = 20,00 g/mol  
CAS [7664-39-3]  
EC number: 231-634-8  
Taric code: 2811 11 00

**Specifications**

assay (acidimetric).....	47 - 51 %	manganese (Mn).....	max. 0,1 ppb
colour (Hazen).....	max. 10	mercury (Hg).....	max. 1 ppb
chlorides (Cl).....	max. 0,0004 %	molybdenum (Mo).....	max. 0,1 ppb
hexafluorosilicic acid (H <sub>2</sub> SiF <sub>6</sub> ) .....	max. 0,002 %	neodymium (Nd).....	max. 0,1 ppb
total phosphorus (P).....	max. 0,00005 %	nickel (Ni).....	max. 0,5 ppb
total sulfur (S).....	max. 0,00001 %	niobium (Nb).....	max. 0,1 ppb
aluminium (Al).....	max. 1 ppb	palladium (Pd).....	max. 0,2 ppb
antimony (Sb).....	max. 0,2 ppb	platinum (Pt).....	max. 0,2 ppb
arsenic (As).....	max. 0,5 ppb	potassium (K).....	max. 1 ppb
barium (Ba).....	max. 0,1 ppb	praseodymium (Pr).....	max. 0,1 ppb
beryllium (Be).....	max. 0,1 ppb	rhenium (Re).....	max. 0,1 ppb
bismuth (Bi).....	max. 0,1 ppb	rhodium (Rh).....	max. 0,1 ppb
boron (B).....	max. 1 ppb	rubidium (Rb).....	max. 0,1 ppb
cadmium (Cd).....	max. 0,1 ppb	ruthenium (Ru).....	max. 0,1 ppb
calcium (Ca).....	max. 1 ppb	samarium (Sm).....	max. 0,1 ppb
cerium (Ce).....	max. 0,1 ppb	scandium (Sc).....	max. 0,1 ppb
cesium (Cs).....	max. 0,1 ppb	selenium (Se).....	max. 1 ppb
chromium (Cr).....	max. 1 ppb	silver (Ag).....	max. 0,5 ppb
cobalt (Co).....	max. 0,1 ppb	sodium (Na).....	max. 1 ppb
copper (Cu).....	max. 0,5 ppb	strontium (Sr).....	max. 0,1 ppb
dysprosium (Dy).....	max. 0,1 ppb	tantalum (Ta).....	max. 0,1 ppb
erbium (Er).....	max. 0,1 ppb	tellurium (Te).....	max. 0,1 ppb
euroeuropium (Eu).....	max. 0,1 ppb	terbium (Tb).....	max. 0,1 ppb
gadolinium (Gd).....	max. 0,1 ppb	thallium (Tl).....	max. 0,1 ppb
gallium (Ga).....	max. 0,1 ppb	thorium (Th).....	max. 0,1 ppb
germanium (Ge).....	max. 0,1 ppb	thulium (Tm).....	max. 0,1 ppb
gold (Au).....	max. 0,2 ppb	tin (Sn).....	max. 0,5 ppb
hafnium (Hf).....	max. 0,1 ppb	titanium (Ti).....	max. 1 ppb
holmium (Ho).....	max. 0,1 ppb	tungsten (W).....	max. 0,5 ppb
indium (In).....	max. 0,1 ppb	uranium (U).....	max. 0,1 ppb
iron (Fe).....	max. 1 ppb	vanadium (V).....	max. 0,1 ppb
lanthanum (La).....	max. 0,1 ppb	ytterbium (Yb).....	max. 0,1 ppb
lead (Pb).....	max. 0,1 ppb	yttrium (Y).....	max. 0,1 ppb
lithium (Li).....	max. 0,1 ppb	zinc (Zn).....	max. 1 ppb
lutetium (Lu).....	max. 0,1 ppb	zirconium (Zr).....	max. 0,1 ppb
magnesium (Mg).....	max. 1 ppb		

**Physical data**

- Density: 1,16 g/cm<sup>3</sup>
- Solub. in water: (20 °C): miscible
- Melting point: ~ -35 °C
- Boiling point: ~ 106 °C
- pH(20 °C) < 1

## Safety - GHS

**Signal Word:** Danger



**Hazard Statements:**

H310: Fatal in contact with skin.

H330: Fatal if inhaled.

H314: Causes severe skin burns and eye damage.

**Precautionary Statements:**

P303+P361+P353: IF ON SKIN (or hair): Remove / Take off immediately all contaminated clothing. Rinse skin with water / shower.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P320: Specific treatment is urgent (see on this label).

P361: Remove / Take off immediately all contaminated clothing.

P405: Store locked up.

P501a: Dispose of contents / container in accordance with local / regional / national / international regulations.

## Toxicological data

- MAK: 2 ml/m<sup>3</sup>, 1,7 mg/m<sup>3</sup>
- WGK: 1
- Poison class CH (Swiss): 1

## Transport/storage

- ADR: 8 CT1 II • UN 1790 • HYDROFLUORIC ACID
- IMDG: 8 II • UN 1790 • HYDROFLUORIC ACID
- IATA/ICAO: 8 II • UN 1790 • HYDROFLUORIC ACID
- PAX: 809
- CAO: 813