

Ammonium Fluoride 36% Solution

Technical Data Sheet

Ammonium Fluoride, 36%

CHEMICAL ANALYSIS

NH₄ F, %

35.0 37.0

36.0

pH, Range of Solution

7.0 7.8

7.4

F, %

17.9 19.0

PHYSICAL PROPERTIES

Physical Description

Water white to straw yellow solution

Molecular Weight

37.0

Boiling Point

180 240°F

Specific Gravity @ 20°F

1.11

Density, lb./gal

9.26

Freezing Point

9°F

CONTAINERS

Tank truck

4,500 gal (42,000 lb)

Tank car

20,000 gal (185,000 lb)

DOT AND FREIGHT DESCRIPTION

Hazardous Material Description

Ammonium fluoride

Haz. Mat. Class I.D. #, Packing Group

6.1, UN 2505, PG III

Freight Classification

Ammonium Fluoride

Principle CAS Number

12125 01 8

RQ

100 lb

Placard

Toxic (Poison)

Label

Toxic (Poison)

Ammonium Fluoride, 36%

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Ammonium Fluoride Mixing Table for Acidizing Solutions

	HCL 7 ¹²⁰ % HF 1%	HCL 7 ¹²⁰ % HF 1 ¹²⁰ %	*** HCL 10% HF 5%	*** HCL 10% HF 6%	HCL 12% HF 3%	*** HCL 12% HF 6%	HCL 15% HF 3%	HCL 15% HF 4%
18°HCL	306	337	655	690	595	707	713	771
HCL 18	49	74	256	310	153	243 *4 ³⁴ %	155	208
Amm. Fl. 36%, H ₂ O	645	589	89	0	252	50	132	21
20°HCL	267	295	573	633	520	677	623	678
HCL 20	49	74	256	310	153	289 *5 ¹²⁰ %	155	208
Amm. Fl. 36%, H ₂ O	684	631	121	57	327	34	222	114
22°HCL	236	260	505	558	459	621	550	598
HCL 22	49	74	256	310	153	308	155	208
Amm. Fl. 36%, H ₂ O	715	666	239	132	388	71	295	194

All figures in gallons.

Each formula shows the gallons of HCL (18°, 20°, or 22° Baume), Ammonium Fluoride and water required to yield 1,000 gallons of the desired HCL HF solution.

* 18°HCL can only yield a maximum HF concentration of 4.75% when diluted to 12% with water and Ammonium Fluoride solution.

* 20°HCL can only yield a maximum HF concentration of 5.6% when diluted to 12% with water and Ammonium Fluoride solution.

** HCL concentration only 9.6% Maximum achievable.

***These solutions precipitate some small amounts of Ammonium Chloride at room temperature.

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