



Hydrogen Fluoride

Product Stewardship Summary

Chemical Name:	Hydrogen fluoride
Synonyms:	Anhydrous hydrofluoric acid; AHF; Hydrofluoric acid gas; Hydrofluoric acid; HF; Hydrofluoride, Fluoric acid
CAS Number:	7664-39-3
EC (EINECS) Number:	231-634-8
Revision number:	1-2022

- Chemical identification and uses:** Anhydrous hydrofluoric acid (AHF), as well as aqueous solutions of HF (e.g., 70% and 49%), are clear, colorless corrosive fuming liquids with an extremely pungent odor. It is usually shipped in steel cylinders as a compressed gas. When water is added to HF, considerable heat is evolved and a violent reaction can occur. Hydrogen fluoride is used in the production of most fluorine-containing chemicals. It is used in the production of refrigerants, herbicides, pharmaceuticals, high-octane gasoline, aluminum, plastics, electrical components, and fluorescent light bulbs. Anhydrous hydrogen fluoride is used as a catalyst in the petroleum alkylation, a process that increases the octane rating of petroleum. In uranium chemicals production, hydrogen fluoride is used to convert uranium oxide (yellow cake, U₃O₈) to UF₄ before further fluorination to UF₆. Aqueous hydrofluoric acid is used in stainless steel pickling, glass etching, metal coatings, exotic metal extraction, and quartz purification. Although lower concentrations of HF are used in certain industrial and consumer cleaning compounds, Honeywell does not recommend its use in these applications because of the potential for harm if the product is used without proper protection or training. Honeywell is the world's largest producer of Hydrofluoric Acid (HF). In addition, Honeywell is the leader in safe and reliable HF transportation, HF handling training, and the development in HF medical treatment products. A booklet titled "Recommended Medical Treatment for Hydrofluoric Acid Exposure" is available from the Honeywell HF website: <http://www.HFacid.com>.
- Potential exposures:** Exposure to AHF or HF must be avoided because the liquid or vapor can cause severe burns, and life-threatening cardiac arrhythmias; even moderate exposures to concentrated HF may result in death if left untreated. Workplace exposure limits have been established for use in worksite safety programs. Please see the MSDS for additional information.
- Human Health hazards:** Hydrogen fluoride is extremely toxic chemical and can be fatal if inhaled, ingested or if comes in contact with skin. Hydrogen fluoride can cause serious eye damage and skin corrosion. One should refer to See the Safety Data Sheet (SDS) for additional information and any protective information.
- Environmental Health hazards:** Hydrogen fluoride is toxic to aquatic organisms. One should dispose HF in surface water on sewer system.
- Please contact us at PMTPSCustomerCare@Honeywell.com for more information. Additional information on this chemical may also be found at the following links:

Hydrogen fluoride - [Pubchem](#)



This product stewardship summary is intended to give general information about the chemical or categories of chemicals addressed. It is not intended to provide an in-depth discussion of all health and safety information. Additional information on the chemical is available through the applicable Material Safety Data Sheet which should be consulted before use of the chemical. The product stewardship summary does not supplant or replace required regulatory and/or legal communication documents. Statements concerning use of our products are made without warranty that any such use is free of patent infringement and are not recommendations to infringe any patent.