

What is Hydrofluoric Acid?

Hydrofluoric acid (HF) is a chemical used to wash vehicles and can seriously endanger the people who work with it.

Commonly used in car and truck wash products to brighten aluminum and break down roadway grime, HF acid is insidiously toxic.

Occupational exposure can result in chemical burns, disability and death. It's extremely dangerous, since it doesn't cause immediate skin burns that you can feel. Instead, HF seeps through tissue, eats into bones, and turns calcium into calcium fluoride, taking hours before the burn victim realizes the damage.

Dangerous chemicals have hidden costs and risks. While HF may be inexpensive to purchase, there are already companies with effective and safe non-corrosive alternatives on the market.

By factoring in your savings from not having to replace concrete and conveyors, along with OSHA-required safety gear and training becoming unnecessary, the cost difference between HF and non-corrosive chemicals may be negligible.



DANGER HYDROFLUORIC ACID
HAZARDOUS LIQUID

Causes SEVERE BURNS which may not be IMMEDIATELY PAINFUL or VISIBLE.

AVOID CONTACT WITH EYES, SKIN AND CLOTHING!!

Use 2.5% Calcium Gluconate Gel IMMEDIATELY on burn TO REDUCE SKIN and BONE DAMAGE.

For full details, visit Calgonate.com

A few products that use Hydrofluoric Acid

Product	HF % concentrate*
Zep-A-Lume	5-10
Aluma Brite	—
Aluma-Kleen 1000	10-20§
Fast Bright	<12
A-Wall	—
Lume Brite Aluminum Cleaner and Brightener	<12
TC-303 Acid Aluminum Truck Brightener	<5+ <4
Wheel Bright	—

* HF % concentrate is that reported on the product's Safety Data Sheet.

Source: CDC.gov

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Hydrofluoric Acid Safety: What You Should Know

Real Dangers – True Stories

At a car wash, a worker put on a pair of latex gloves that were tainted with HF acid. Her fingers turned black within a day and had to be amputated a few days later. The employer thought the cleaning substance was safe.



Another car wash worker was afflicted with severe tissue burns on his feet after spilling car wash cleaner on his shoes. Someone diluted the cleaner to contain approximately 2% HF. Because of the low concentration, his pain was delayed and the HF saturated deep into his tissues before he sought medical attention. This car wash worker lost three weeks of work.

How Can You Prevent Exposure?

Engineering Controls:

Elimination, minimization and substitution of products utilizing Hydrofluoric Acid.

Personal Protective Equipment:

Nitrile gloves, aprons, gauntlets, eye protection, face protection, respirator, footwear.

Symptoms

Inhalation of HF acid vapors may cause severe throat irritation, cough, dyspnea, cyanosis, lung injury and pulmonary edema resulting in death.

Damage often occurs without any warning pain sensation in the early stages. As the HF concentration increases, so does the speed and severity of tissue destruction. An HF burn covering less than 2% of your body can kill you.

Treatment

What You Should Do if Exposed:

Review your safety data sheet (SDS) for first aid procedures. Contact a medical provider for instructions on first aid provisions.

When HF Contacts the Skin or Eye:

- Immediately wash the affected area with water for at least 15 minutes.
- After washing, promptly seek professional medical treatment.
- Apply calcium gluconate gel or magnesium oxide paste to skin burns and sterile 1% calcium gluconate in saline drops for eye burns to limit tissue damage.
- In case of inhalation exposure or burns on the nose or mouth, transport the victim to a treatment facility immediately. If acid is ingested and the person is conscious, give them large quantities of water immediately.
- DO NOT attempt to make the person vomit.

Precautions for Safe Use

Due to the serious burns that can occur even at low concentrations, it's important to select the Proper Protective Equipment (PPE) and clothing.

Neoprene and Nitrile-NBR are the best materials to be used with HF.

HF poses a serious inhalation hazard. For this reason, liquid HF cleaner should not be applied with pump sprayers because it puts the HF in aerosol form.

Preventing exposure and injury must be the primary goal. Everyone who handles HF must be trained on the following:

- HF's properties and dangers.
- Proper handling and safety precautions.
- Proper use, function and maintenance of engineering controls.
- Correct use of PPE.
- First aid and medical treatment.

As with all hazardous materials, you should always refer to the Safety Data Sheet (SDS) supplied by the manufacturer for specific guidelines on work processes, ventilation, PPE, first aid, spill response and other safety-related needs.