










Advice on Completing Chemical Risk Assessments – 3

Please note that this sample document is for information purposes only. Your own risk assessment form may be in a different format. **Advice comments will appear when you hover over the 'comment icon'.** 

Hydrofluoric Acid (HF)

	<p>Description</p> <ul style="list-style-type: none"> - Colourless, fuming liquid with a pungent odour; m. p. -100°C; Soluble in water. CAS: 7664-39-3. UN number: 1790.
	<p>Health Hazards</p> <ul style="list-style-type: none"> - DANGER: FATAL IF INHALED, IN CONTACT WITH SKIN & IF SWALLOWED. - Inhalation: Exposure to high vapour concentrations causes severe lung damage which may be fatal. Effects may be delayed for 12-24 hours. Repeated over-exposure to lower concentrations may cause ulceration of the nose, throat and bone damage (fluorosis). Vapour is extremely irritating to the eyes and respiratory tract. (GHS Acute Tox. Inhalation Cat. 2). - Skin: Causes SEVERE SKIN BURNS which may be fatal. Burns from exposure to vapour may be delayed. (GHS Acute Tox.Dermal Cat. 1; GHS Skin Corr. Cat.1A). - Eyes: Causes SEVERE EYE BURNS which may result in permanent loss of vision. - Swallowing: Liquid contact rapidly causes severe corrosive damage and poisoning which may be fatal (GHS Acute Tox. Oral Cat. 2).
	<p>First-Aid?</p> <ul style="list-style-type: none"> - SEEK IMMEDIATE MEDICAL ATTENTION IN ALL CASES OF EXPOSURE - Inhalation: Remove from source of exposure. If breathing stops or shows signs of failing apply artificial respiration. Administer oxygen if respiration difficult. - Skin Contact: Remove contaminated clothing and flush affected area with water for at least 2 minutes. Massage calcium gluconate gel into the burnt area for at least 15 minutes after the pain is relieved. If calcium gluconate gel is not available continuously drench for 15 minutes. - Eyes: Flood with eye wash or water for at least 15 minutes. Obtain medical help. - Ingestion: Wash out mouth with water. Obtain medical help.
	<p>Safety Hazards</p> <ul style="list-style-type: none"> - INCOMPATIBLE Strong oxidising agents, strong bases, acetic anhydride, alcohols, amines. Glass, concrete and other silicon containing materials will generate silicon tetrafluoride gas in contact with HFA causing pressure build up if contained. Reaction with sulphides and cyanides will yield toxic gases hydrogen sulphide and hydrogen cyanide. - CORRODES Glass, concrete, natural rubber, leather, and certain metals. - EXPLOSION HAZARD Corrosive action on metals generates hydrogen.
	<p>Fire</p> <ul style="list-style-type: none"> - NOT COMBUSTIBLE DO NOT USE WATER if involved in fire.
	<p>Spillage & Environment</p> <ul style="list-style-type: none"> - In the workplace, refer to local spillage/emergency procedures. DO NOT USE WATER ON LIQUID SPILLAGE. Contain with dry sand/proprietary adsorbent or neutralise with sodium carbonate or an equal mixture of soda ash and slaked lime. Contaminated adsorbent should be put into a suitable 'sealable' container and disposed of as hazardous waste. Mist/vapour can be contained with water fog/spray or alcohol resistant foam. Prevent spillage entering water courses. Clean up spills immediately, observing precautions in the Exposure Controls section.
	<p>Exposure Controls Containment Level 3</p> <ul style="list-style-type: none"> - In the workplace refer to local procedures/risk assessment for specific personal protective equipment requirements. Chemical Protective Clothing suitable for protection against liquids (CEN Standard Type 3 or 4) and Eye Protection must be worn where there is risk of liquid contact. Respiratory Protective Equipment and Local Exhaust Ventilation may be required to protect against vapour/mist. Health surveillance for fluoride absorption is required where exposure may be significant.
	<p>Occupational Exposure Limit</p> <ul style="list-style-type: none"> - UK Health & Safety Executive: Workplace Exposure Limit 8-Hour TWA: 2.5 mgm⁻³ (as F) 15-minute TWA: None.