



NATIONAL REFRIGERANTS

Kleen Brite

Safety Data Sheet

1. Product and Company Identification

1.1.Product Name: Kleen Brite
1.2.Distributor: National Refrigerants Ltd.,
4 Watling Close
Sketchley Meadows Industrial Estate
Hinckley
Leistershire
LE10 3EZ

1.3.Emergency Telephone No.:
IN AN EMERGENCY DAIL 999 (UK Only)
For specialist advice in an emergency telephone
+441455 630790

2. Composition/Information on Ingredient

Chemical Description: Blended acids in aqueous base.
Hazardous Component: Hydrofluoric Acid
Phosphoric Acid

3. Hazard Identification

Overview: Danger! Corrosive to all body tissues. Avoid contact with skin or eyes.
Harmful is inhaled or swallowed.

Potential Health Effects:

Inhalation: Inhalation of vapour or mist is corrosive to respiratory tract. Symptoms include coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting.

Eye contact: Liquid or vapours are corrosive to eyes. Immediate irritation followed by destruction of tissue.

Skin contact: This material is corrosive to all body tissues. Full extent of damage may not be apparent for 12 – 24 hours after exposure. Sever burns are slow healing. Gangrene may follow damage.

Ingestion: Corrosive, moderately toxic, causes nausea, vomiting, and loss of consciousness.

Chronic effects: Damage to kidneys and liver (Phosphoric Acid). Changes in bones or joints (Hydrofluoric Acid).

4. First Aid Measures

Inhalation: Remove victim to fresh air and if needed immediately begin artificial respiration. Authorised personnel may give oxygen if breathing is laboured. Get immediate medical help. Contact a physician immediately.

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Eye Contact: Flush eye for at least 15 minutes holding the eye open. Obtain immediate medical attention.

Skin contact: Flush with water or soap and water for 15 minutes or until all traces have been removed. Seek medical attention if symptoms develop and persist.

Ingestion: DO NOT INDUCE VOMITING. Rinse mouth with water. Get immediate medical attention.

See also Section 11.

5. Fire Fighting Measures

Extinguishing Media: Consider other substances present. Dry Powder, Carbon dioxide (CO₂) Water fog or spray.

Hazardous combustion products: Smoke, irritating vapour, toxic fumes of PO_x, and corrosive fluorine compounds,.

Fire Fighting Protective Equipment: Fire-fighters wear protective clothing and self-contained breathing apparatus.

6. Accidental Release Measures (Spillage)

Personal Precautions: Total protection is required. Acid proof boots, PVC suit and gloves, respirator for hydrofluoric acid and eye/face protection.

Environmental Precautions: Do not allow to enter watercourses. Neutralise before flushing to drain.

Recovery of Major Spillage: Evacuate the hazard area of unprotected personnel. Wear appropriate respirator and protective clothing. Contain spill with inert material. Neutralise and absorb spillage with lime or soda ash. It is advisable to spray the spillage with water to reduce fumes and heat generated by neutralisation. The neutralised slurry can be flushed to drain with copious amount of water.

Minor Spillage: Neutralise and wash area down with copious amounts of water.

7. Handling and Storage

Handling: Always wear protective equipment. Avoid contact with skin, eyes and clothing. After handling this product wash hands before eating, drinking or smoking. If contact occurs remove contaminated clothing. If needed take first aid action shown above. Launder contaminated clothing before reuse.

General: Keep containers upright, closed with water nearby.

Storage: Store in a cool shaded area away from heat and incompatible products.

8. Exposure Controls & Personal Protection

Occupational Exposure Limits

Hazardous Component	OEL	OEL
	Long Term	Short Term
Hydrofluoric acid	3 ppm	6 ppm
Phosphoric acid	1 mg/m ³	3 mg/m ³

Engineering Controls: Take precautions as required to keep concentrations below OEL.

Personal Protection:

Respiratory: Only used if in confined space or concentrations exceed OEL. Use appropriate respirator for hydrofluoric acid.

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Hand: Use heavy rubber gloves or PVC gauntlets.

Eye: Minimum a full face shield. Head and shoulder hood with integrated visor would be appropriate.

Skin: PVC suit recommended for total coverage. Acid proof boots may be required.

Other: Drench shower and eyewash as needed for protection against spills and/or splashes.

9. Physical and Chemical Properties

Appearance: Pink liquid.

Odour: Pungent, acidic.

pH: < 2.0

Boiling Point: 100°C

Melting Point: ND

Flash Point: Not applicable.

Flammability Upper: Not applicable.

Flammability Lower: Not applicable.

Vapour Density (Air = 1): >1

Specific Gravity: 1.15

10. Stability and Reactivity

Stability: Stable.

Conditions to Avoid: High Temperatures.

Materials to Avoid: Alkaline materials. May react with metals to produce hydrogen gas.

Hazardous Decomposition products: Corrosive fumes, toxic PO_x fumes, from combustion smoke, carbon monoxide, carbon dioxide,

11. Toxicological Information

Phosphoric acid LDL₀: 220 mg/kg (unr-man)

LD₅₀: 1530 mg/kg (oral-rat)

LD₅₀: 2740 mg/kg (skin-rat)

Hydrofluoric acid: LCL₀: 50 ppm/30 M (inh-human)

LC₅₀: 966 ppm/1hr (inh-rat)

TCL₀: 100 mg/m³ (inh-human) Nose, Eye, Pul.

Skin Contact: Corrosive causes painful burns. Necrotic tissue may need to be used to treat. Systemic poisoning possible by skin absorption. Dilute solutions can cause burns delayed by hours.

Eye Contact: Corrosive to living tissue, irreversible. Damage very probable.

Ingestion: Corrosive to mouth, oesophagus and stomach.

Inhalation: Pulmonary oedema, lung damage.

Carcinogenicity: Not considered to be a carcinogen.

Mutagenicity: Not considered to be mutagen.

Reproductive effects: None identified.

Acute Effects: SUDDEN COLLAPSE MAY OCCUR SOME HOURS AFTER SUSTAINING SEVER BURNS, LOW SERUM Ca OR Mg IS LIKELY CAUSE.

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Chronic Effects: Acute effects predominate.

12. Ecological Information

Mobility: Water Soluble.

Persistence and Degradability: Will react with natural minerals.

Bio Accumulation: Not expected.

Aquatic Toxicity: Harmful to aquatic life in very low concentrations.

Phosphoric Acid 138 ppm / 24 hr / Mosquito fish/ TLm / Freshwater.

Hydrofluoric Acid 60 ppm / Fish lethal / Freshwater

13. Disposal Considerations

Disposal Method: Dispose as hazardous waste in accordance with legislation. Do not dispose as domestic waste.

Contaminated Packaging: Must be totally flushed before disposal.

14. Transport Information

Packaging size: 1 & 5 US gallon plastic bottles.

Class (ADR): 8

UN Number: UN3264

Packing Group: II

Proper Shipping Name (ADR): UN 3264 Corrosive Liquid, Acidic, Inorganic N.O.S. (Hydrofluoric Acid, Phosphoric Acid), 8, II

15. Regulatory Information

Supply Classification Hazard Pictogram: Toxic, Corrosive.

Risk Phrases: R23/24/25 Very toxic by inhalation, in contact with skin and if swallowed.

R35 Causes sever burns

Safety Phrases: S7/9 Keep container tightly closed and in a well ventilated place

S26 In case of contact with eyes rinse immediately with plenty of water and seek medical advice.

S36/37 Ware suitable protective clothing and gloves.

S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

16. Other Information

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