



ACTI-BRITE

AB-1, AB-5, AB-55

MSDS Preparation Date (dd/mm/yyyy): 27/08/2010

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## MATERIAL SAFETY DATA SHEET

### SECTION 1 - IDENTIFICATION

**Product identifier** : **ACTI-BRITE**

**Product Code(s)** : AB-1 (P/N 475096), AB-5 (P/N 475100), AB-55 (P/N 475102)

**Product Use** : Refrigeration coil cleaner..

**Chemical Family** : Mixture

**Supplier's name and address:**  
**Parker Hannifin Corporation - Sporlan Division**  
206 Lange Drive  
Washington, MO, U.S.A.  
63090

**Manufacturer's name and address:**  
Refer to Supplier

**Information Telephone #** : (636) 239-1111

**24 Hr. Emergency Tel #** : Chemtrec 1-800-424-9300 (Within Continental U.S.); Chemtrec 703-527-3887 (Outside U.S.).

### SECTION 2 - HAZARDS IDENTIFICATION

**Classification** : WHMIS information: This product is a WHMIS Controlled Product. It meets one or more of the criteria for a controlled product provided in Part IV of the Canadian Controlled Products Regulations (CPR).  
WHMIS classification:  
Class D1A (Materials Causing Immediate and Serious Toxic Effects, Very Toxic Material);  
Class D2A (Materials Causing Other Toxic Effects, Very Toxic Material);  
Class E (Corrosive Material).  
  
OSHA: This material is classified as hazardous under OSHA regulations (29CFR 1910.1200).  
Hazardous classification:  
Acute Health Hazard;  
Chronic Health Hazard .

**Emergency Overview** : Pink liquid. Pungent odour.  
DANGER! Corrosive to all tissues. Causes eye, skin and digestive tract burns. Health injuries may be delayed. POISON! Fatal if inhaled. May be fatal if swallowed. Severe respiratory irritant. Prolonged exposure may cause skeletal fluorosis (weakened bone structure). Contact with metals may release small amounts of flammable hydrogen gas. May be corrosive to metals.

### POTENTIAL HEALTH EFFECTS:

#### Signs and symptoms of short-term (acute) exposure

**Inhalation** : If mists are formed, may cause severe irritation to the nose, throat and respiratory tract. Symptoms may include coughing, choking and wheezing. Extremely high exposures may lead to inflammation of lung tissue (chemical pneumonitis), chemical bronchitis and accumulation of fluid in the lungs (pulmonary edema). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed. Absorbed fluoride can cause irregular heartbeat, nausea, dizziness, vomiting and seizures. Could also cause convulsions, coma, respiratory arrest and death.

**Skin** : Causes severe burns, symptoms may be delayed. Direct skin contact may cause corrosive skin burns, deep ulcerations and possibly permanent scarring. May be absorbed and cause symptoms similar to those for inhalation.

**Eyes** : Causes severe burns. Symptoms may include severe pain, blurred vision, redness and corrosive damage. Could cause blindness.

**Ingestion** : May cause severe irritation and corrosive damage in the mouth, throat and stomach. Symptoms may include abdominal pain, vomiting, burns, perforations, bleeding and eventually death.



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**Effects of long-term (chronic) exposure**

: Chronic skin contact with low concentrations may cause dermatitis. In extreme cases, tooth erosion could result. Prolonged exposure may cause skeletal fluorosis (weakened bone structure). Repeated or prolonged exposure may result in kidney effects.

**Carcinogenic status**

: See TOXICOLOGICAL INFORMATION, Section 11.

**Additional health hazards**

: See TOXICOLOGICAL INFORMATION, Section 11.

**Potential environmental effects**

: See ECOLOGICAL INFORMATION, Section 12.

**SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS**

<u>Ingredients</u>	<u>CAS #</u>	<u>Wt.%</u>
Hydrofluoric acid	7664-39-3	10.00 - 30.00
Phosphoric acid	7664-38-2	1.00 - 5.00
Ethoxylated nonylphenol	26027-38-3	1.00 - 5.00

**SECTION 4 - FIRST AID MEASURES**

**Inhalation**

: Immediately remove person to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing has stopped, give artificial respiration. Seek immediate medical attention/advice.

**Skin contact**

: Remove contaminated clothing. Flush affected skin with gently flowing lukewarm water for at least 20 minutes. Cover wound with sterile dressing. Do not rub area of contact. Wash contaminated clothing before re-use. Seek immediate medical attention/advice. Leather and shoes that have been contaminated with the solution may need to be destroyed.

**Eye contact**

: Immediately flush eyes thoroughly with running water for at least 20 to 30 minutes. Protect unharmed eye. Seek immediate medical attention/advice.

**Ingestion**

: Do not induce vomiting. Have victim rinse mouth with water, then give one to two glasses of water to drink. Seek immediate medical attention/advice. Never give anything by mouth to an unconscious person.

**Notes For Physician**

: Immediate medical attention is required.  
Delayed treatment may result in fatality.  
Symptoms may be delayed.  
Corrosive. Treat symptomatically.

**SECTION 5 - FIRE FIGHTING MEASURES**

**Fire hazards/conditions of flammability**

: Not flammable under normal conditions of use. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure. Contact with metals may release small amounts of flammable hydrogen gas. Vapours are heavier than air and collect in confined and low-lying areas.

**Flammability classification (OSHA 29 CFR 1910.1200)**

: Not flammable.

**Oxidizing properties**

: None.

**Explosion data: Sensitivity to mechanical impact / static discharge**

: Not expected to be sensitive to mechanical impact or static discharge.

**Suitable extinguishing media**

: Use water fog or fine spray, foams, carbon dioxide or dry chemical. Some chemical extinguishing agents may react with this material.

**Special fire-fighting procedures/equipment**

: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame.

**Hazardous combustion products**

: phosphorus oxides; Hydrogen fluoride; Carbon oxides; formaldehyde.



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<b>NFPA Rating</b>	0 - Minimal	1 - Slight	2 - Moderate	3 - Serious	4 - Severe
	Health: 4	Flammability: 0	Instability: 1	Special Hazards:	None.

## SECTION 6 - ACCIDENTAL RELEASE MEASURES

- Personal precautions** : Restrict access to area until completion of clean-up. Ensure clean-up is conducted by trained personnel only. Individuals involved in the cleanup must wear appropriate personal protective equipment. Refer to Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION, for additional information on acceptable personal protective equipment.
- Environmental precautions** : Ensure spilled product does not enter drains, sewers, waterways, or confined spaces. If necessary, dike well ahead of the spill to prevent runoff into drains, sewers, or any natural waterway or drinking supply.
- Spill response/cleanup** : Remove all sources of ignition. Ventilate area of release. Stop the spill at source if it is safe to do so. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal (see Section 13). Do not flush into surface water or sanitary sewer system. Notify the appropriate authorities as required.
- Prohibited materials** : None known.
- Special spill response procedures** : If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8002).  
US CERCLA Reportable quantity (RQ): Hydrofluoric acid (100 lbs / 45.4 kg);  
Phosphoric acid (5000 lbs / 2270 kg).

## SECTION 7 - HANDLING AND STORAGE

- Safe Handling procedures** : Use only in well-ventilated areas. Wear suitable protective equipment during handling. Avoid breathing vapour or mist. Avoid contact with skin, eyes and clothing. During preparation or dilution, always add liquid slowly to water and with constant stirring. When diluting, always add the product to water. Never add water to the product. Wash thoroughly after handling. Keep away from bases, metals and other incompatibles. Keep away from heat and flame. Keep containers tightly closed when not in use.
- Storage requirements** : Store in a cool, dry, well-ventilated area. Store away from incompatible materials. Store in corrosion-resistant containers. Corrosive materials should be stored in a separate safety storage cabinet or room. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. No smoking in the area. Store in corrosion-resistant containers.
- Incompatible materials** : Oxidizing agents; Metals; Alkalies. Reducing agents.
- Special packaging materials** : Corrosive to metals. Metal containers must be lined.

## SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

### Exposure Limits

<u>Ingredients</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
Hydrofluoric acid	0.5 ppm (as F) (skin)	2 ppm (as F) (skin)	3 ppm (as F)	N/Av
Phosphoric acid	1 mg/m <sup>3</sup>	3 mg/m <sup>3</sup>	1 mg/m <sup>3</sup>	N/Av
Ethoxylated nonylphenol	N/Av	N/Av	N/Av	N/Av

### Ventilation and engineering measures

- : Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits. Ensure adequate ventilation, especially in confined areas.



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- Respiratory protection** : Respiratory protection is required if the concentrations exceed the TLV. NIOSH-approved respirators are recommended. A self contained breathing apparatus should be used in emergency situations or instances where exposure levels are not known. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02. Advice should be sought from respiratory protection specialists.
- Skin protection** : Impervious gloves must be worn when using this product. Advice should be sought from glove suppliers.
- Eye / face protection** : Chemical splash goggles must be worn when handling this material. A full face shield may also be necessary.
- Other protective equipment** : Wear chemically protective gloves (impervious), boots, aprons, and gauntlets to prevent prolonged or repeated skin contact. An eyewash station and safety shower should be made available in the immediate working area.
- General hygiene considerations** : Avoid breathing vapour or mist. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove soiled clothing and wash it thoroughly before reuse. Contaminated work clothing should not be allowed out of the workplace. Keep working clothes separately.

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state</b>	: liquid	<b>Appearance</b>	: Pink liquid.
<b>Odour</b>	: Pungent odour.	<b>Odour threshold</b>	: N/Av
<b>pH</b>	: < 2.0		
<b>Boiling point</b>	: 100°C (212°F)	<b>Specific gravity</b>	: 1.15
<b>Melting/Freezing point</b>	: N/Av	<b>Coefficient of water/oil distribution</b>	: N/Av
<b>Vapour pressure (mmHg @ 20° C / 68° F)</b>	: N/Av	<b>Solubility in water</b>	: Complete
<b>Vapour density (Air = 1)</b>	: > 1	<b>Evaporation rate (n-Butyl acetate = 1)</b>	: > 1
<b>Volatile organic Compounds (VOC's)</b>	: N/Av	<b>Volatiles (% by weight)</b>	: 0%
<b>Flash point</b>	: N/Av		
<b>Flash point Method</b>	: N/Av	<b>Auto-ignition temperature</b>	: N/Av
<b>Lower flammable limit (% by vol.)</b>	: N/Av	<b>Upper flammable limit (% by vol.)</b>	: N/Av
<b>Flame Projection Length</b>	: N/Av	<b>Flashback observed</b>	: N/Av

## Section 10: Stability And Reactivity

- Stability and reactivity** : Stable under the recommended storage and handling conditions prescribed. Contact with metals may release small amounts of flammable hydrogen gas. May be corrosive to metals.
- Hazardous polymerization** : Hazardous polymerisation does not occur.
- Conditions to avoid** : Avoid heat and open flame. Avoid contact with incompatible materials.
- Materials To Avoid And Incompatibility** : Incompatible materials (see Section 7).
- Hazardous decomposition products** : None known, refer to hazardous combustion products in Section 5.

## SECTION 11 - TOXICOLOGICAL INFORMATION

- Target organs** : Eyes, skin, respiratory system and digestive system. Kidneys.
- Routes of exposure** : *Inhalation:* YES *Skin Absorption:* YES *Skin & Eyes:* YES *Ingestion:* YES
- Toxicological data** : See below for individual ingredient acute toxicity data.



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<u>Ingredients</u>	<u>LC<sub>50</sub>(4hr)</u>	<u>LD<sub>50</sub></u>	
	<u>inh, rat</u>	<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Hydrofluoric acid	655 ppm	< 40 mg/kg (mouse)	N/Av
Phosphoric acid	> 213 mg/m <sup>3</sup>	1530 mg/kg	> 1260 mg/kg
Ethoxylated nonylphenol	N/Av	1410 µL/kg	2830 µL/kg

<b>Carcinogenic status</b>	: No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.
<b>Reproductive effects</b>	: Not expected to have other reproductive effects.
<b>Teratogenicity</b>	: Not expected to be a teratogen.
<b>Mutagenicity</b>	: Not expected to be mutagenic in humans.
<b>Epidemiology</b>	: Not available.
<b>Sensitization to material</b>	: Not expected to be a skin or respiratory sensitizer.
<b>Synergistic materials</b>	: Not available.
<b>Irritancy</b>	: Corrosive.
<b>other important hazards</b>	: None known.
<b>Conditions aggravated by overexposure</b>	: Pre-existing skin, eye and respiratory disorders.



## SECTION 12 - ECOLOGICAL INFORMATION

<b>Ecotoxicity</b>	: No data is available on the product itself. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.
<b>Mobility</b>	: No data is available on the product itself.
<b>Persistence</b>	: No data is available on the product itself.
<b>Bioaccumulation potential</b>	: No data is available on the product itself.
<b>Other Adverse Environmental effects</b>	: No data is available on the product itself.

## SECTION 13 - DISPOSAL CONSIDERATIONS

<b>Handling for Disposal</b>	: See Section 7 (Handling and Storage) for further details. Empty containers retain residue (liquid and/or vapour) and can be dangerous.
<b>Methods of Disposal</b>	: Dispose in accordance with all applicable federal, state, provincial and local regulations. Contact your local, state, provincial or federal environmental agency for specific rules.
<b>RCRA</b>	: If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method.

## SECTION 14: TRANSPORT INFORMATION

<b>Regulatory Information</b>	<b>UN Number</b>	<b>Shipping Name</b>	<b>Class</b>	<b>Packing Group</b>	<b>Label</b>
TDG	UN3264	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Hydrofluoric acid; Phosphoric acid)	8	II	
<b>TDG Additional information</b>	May be shipped as LIMITED QUANTITY when transported in containers no larger than 1.0 Litre, in packages not exceeding 30 kg gross mass. Under the TDGR, refer to Section 1.17 for additional exemption information, if shipping under this exemption.				
49CFR/DOT	UN3264	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Contains: Hydrofluoric acid; Phosphoric acid)	8	III	




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<b>49CFR/DOT Additional Information</b>	May be shipped as LIMITED QUANTITY when transported in containers no larger than 1.0 Litre, in packages not exceeding 30 kg gross mass. Refer to 49 CFR Section 173.154.				
ICAO/IATA	UN3264	Corrosive liquid, acidic, inorganic, n.o.s. (Hydrofluoric acid; Phosphoric acid)	8	II	
<b>ICAO/IATA Additional Information</b>	Refer to the appropriate Packing Instruction, prior to shipping this material. Refer to the Manufacturer for shipping information.				

**SECTION 15 - REGULATORY INFORMATION**

**US Federal Information:**

TSCA: All listed ingredients appear on the Toxic Substances Control Act (TSCA) inventory.

CERCLA Reportable Quantity (RQ) (40 CFR 117.302): Hydrofluoric acid (100 lbs / 45.4 kg); Phosphoric acid (5000 lbs / 2270 kg).

SARA TITLE III: Sec. 302, Extremely Hazardous Substances, 40 CFR 355: This product contains an Extremely Hazardous Substance under SARA Section 302. Contains: Hydrofluoric acid.

SARA TITLE III: Sec. 311 and 312, MSDS Requirements, 40 CFR 370 Hazard Classes: Immediate (Acute) health hazard; Chronic Health Hazard. Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds for the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SARA TITLE III: Sec. 313, Toxic Chemicals Notification, 40 CFR 372: This product may be subject to SARA notification requirements, since it contains Toxic Chemical constituents above their de minimus concentrations. This product contains: Hydrofluoric acid.

**US State Right to Know Laws:**

California Proposition 65: To the best of our knowledge, this product does not contain any chemicals known to the State of California to cause cancer or reproductive harm.

Other U.S. State "Right to Know" Lists: The following chemicals are specifically listed by individual States: Hydrofluoric acid (CA, MA, MN, NJ, PA, RI); Phosphoric acid (CA, MA, MN, NJ, PA, RI).

**International Information:**

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

**This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.**

**SECTION 16 - OTHER INFORMATION**

**HMIS Rating** : \* - Chronic hazard 0 - Minimal 1 - Slight 2 - Moderate 3 - Serious 4 - Severe  
*Health: \*4 Flammability: 0 Reactivity: 1*

**Legend** : ACGIH: American Conference of Governmental Industrial Hygienists  
CA: California  
CAS: Chemical Abstract Services  
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980  
CFR: Code of Federal Regulations  
CSA: Canadian Standards Association  
DOT: Department of Transportation  
EPA: Environmental Protection Agency  
HMIS: Hazardous Materials Identification System  
HSDB: Hazardous Substances Data Bank



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IARC: International Agency for Research on Cancer  
Inh: Inhalation  
MA: Massachusetts  
MN: Minnesota  
MSHA: Mine Safety and Health Administration  
N/Av: Not Applicable  
N/Av: Not Available  
NFPA: National Fire Protection Association  
NIOSH: National Institute of Occupational Safety and Health  
NJ: New Jersey  
NTP: National Toxicology Program  
OSHA: Occupational Safety and Health Administration  
PA: Pennsylvania  
PEL: Permissible exposure limit  
RCRA: Resource Conservation and Recovery Act  
RI: Rhode Island  
RTECS: Registry of Toxic Effects of Chemical Substances  
SARA: Superfund Amendments and Reauthorization Act  
STEL: Short Term Exposure Limit  
TDG: Canadian Transportation of Dangerous Goods Act & Regulations  
TLV: Threshold Limit Values  
TWA: Time Weighted Average  
WHMIS: Workplace Hazardous Materials Identification System

**References**

- : 1. ACGIH, Threshold Limit Values and Biological Exposure Indices for 2010.  
2. International Agency for Research on Cancer Monographs, searched 2010.  
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2010 (Chempendium, HSDB and RTECs).  
4. Material Safety Data Sheet from manufacturer.  
5. US EPA Title III List of Lists - October 2006 version.  
6. California Proposition 65 List - June 11, 2010 version.

**Prepared for:**

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