



ACTI-Brite

AB-1, AB-5, AB-55

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SAFETY DATA SHEET

SECTION 1. IDENTIFICATION

Product identifier used on the label

: **ACTI-Brite**

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

Recommended use of the chemical and restrictions on use

: Professional Use Only; Refrigeration coil cleaner.

Chemical family

: Mixture

Name, address, and telephone number of the supplier:

Parker Hannifin Corporation - Sporlan Division

206 Lange Drive
Washington, MO, U.S.A.
63090

Supplier's Telephone # : (636) 239-1111

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

Name, address, and telephone number of the manufacturer:

Refer to supplier

SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

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).

Hazard classification

Corrosive to Metals - Category 1

Acute Toxicity, inhalation - Category 3 (vapor)

Skin Corrosion/Irritation - Category 1

Eye Damage/Irritation - Category 1

Specific Target Organ Toxicity, Single Exposure - Category 1

Label elements

The following label information is applicable only to the United States according to OSHA Regulations (29 CFR 1910.1200) (Hazcom 2012):

Signal Word

DANGER!

Hazard statement(s)

May be corrosive to metals.

Toxic if inhaled.

Causes severe skin burns and eye damage.

Causes damage to the respiratory system by inhalation.

Precautionary statement(s)



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Keep only in original container.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Do not breathe dust or mist.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/clothing and eye/face protection.

IF exposed or concerned: Get medical attention/advice.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
Wash contaminated clothing before reuse.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER or doctor/physician.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
Immediately call a POISON CENTER or doctor/physician.
Absorb spillage to prevent material damage.

Store in corrosive resistant container with a resistant inner liner.
Store locked up.
Store in a well-ventilated place. Keep container tightly closed.

Dispose of contents/container in accordance with local/regional/national/international regulations.



The following label information is applicable only to Canada according to the Canadian Controlled Products Regulations (CPR/WHMIS):

For skin contact, immediately remove contaminated clothing then wash thoroughly with soap and water for at least 15 minutes. DANGER!

May be corrosive to metals. Corrosive to all tissues. Causes eye, skin and digestive tract burns. POISON! Fatal if swallowed, in contact with skin or if inhaled. Severe respiratory irritant. Prolonged exposure may cause skeletal fluorosis (weakened bone structure).

Use only in well-ventilated areas. Wear suitable protective equipment during handling. Avoid contact with eyes, skin and clothing. Do not eat, drink or smoke when using this product. Do not breathe fumes, mists or vapours. Wash thoroughly after handling. Keep container closed when not in use.

If swallowed, call a poison control centre or doctor immediately. Rinse mouth with water. Do NOT induce vomiting. IF INHALED: Remove person to fresh air and keep comfortable for breathing. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stopped, begin artificial respiration. Call a physician or poison control centre immediately. For eye contact, immediately flush eyes thoroughly with running water for at least 20 to 30 minutes. Call a physician or poison control centre immediately. For skin contact, flush with water for at least 15 minutes, while removing contaminated clothing. Call a physician or poison control centre immediately.



Other hazards

Other hazards which do not result in classification:

Contact with most metals will generate flammable hydrogen gas. Chronic skin contact with low concentrations may cause dermatitis. In extreme cases, tooth erosion could result.



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SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

| <u>Chemical name</u> | <u>CAS #</u> | <u>Concentration</u> |
|----------------------|--------------|----------------------|
| Hydrofluoric acid | 7664-39-3 | 10.0 - 30.0 |
| Phosphoric acid | 7664-38-2 | 1.0 - 5.0 |
| Sulfonic N-95 | 127087-87-0 | 3.0 - 7.0 |

SECTION 4. FIRST-AID MEASURES

Description of first aid measures

- 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.
- 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.

Most important symptoms and effects, both acute and delayed

- : If mists are formed, may cause severe irritation to the nose, throat and respiratory tract. Symptoms may include coughing, choking and wheezing. Overexposure to sprays or mists may cause chemical pneumonitis (inflammation of lung tissue). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed. Absorbed fluoride can cause irregular heartbeat, nausea, dizziness, vomiting and seizures. Causes severe skin irritation. Symptoms may include redness, blistering, pain and swelling. Causes serious eye damage. Symptoms may include severe pain, blurred vision, redness and corrosive damage. Could cause blindness. May cause severe irritation and corrosive damage in the mouth, throat and stomach.

Indication of any immediate medical attention and special treatment needed

- : Immediate medical attention is required. Treat symptomatically. Causes chemical burns.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media

- Suitable extinguishing media* : Use water fog or fine spray, foams, carbon dioxide or dry chemical. Some chemical extinguishing agents may react with this material.
- Unsuitable extinguishing media* : Do not use a solid water stream as it may scatter and spread fire.

Special hazards arising from the substance or mixture / Conditions of flammability

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

Flammability classification (OSHA 29 CFR 1910.106)

- : Not flammable.

Explosion Data: Sensitivity to Mechanical Impact / Static Discharge:

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



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Hazardous combustion products

: phosphorus oxides; Hydrogen fluoride; Carbon oxides; formaldehyde

Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters

: Firefighters should wear an approved full-face, self-contained breathing apparatus (SCBA) and impervious clothing.

Special fire-fighting procedures

: 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.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

: 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.

Methods and material for containment and cleaning up

: 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.

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: 1-800-424-8802).
US CERCLA Reportable quantity (RQ): See section 15.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

: Use only in well-ventilated areas. Wear protective gloves/clothing and eye/face protection. Do not breathe fumes or vapours. 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.

Conditions for safe storage

: 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. Store locked up.

Incompatible materials

: Oxidizing agents; Metals; Alkalies. Reducing agents.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION



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| <u>Chemical Name</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) | N/Av | 3 ppm (as F) | N/Av |
| Phosphoric acid | 1 mg/m ³ | 3 mg/m ³ | 1 mg/m ³ | N/Av |
| Sulfonic N-95 | N/Av | N/Av | N/Av | N/Av |

Exposure controls

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.

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

- Appearance** : Pink liquid.
- Odour** : Pungent odour.
- Odour threshold** : N/Av
- pH** : < 2.0
- Melting/Freezing point** : N/Av
- Initial boiling point and boiling range** : 100°C (212°F)
- Flash point** : N/Av
- Flashpoint (Method)** : N/Av
- Evaporation rate (BuAe = 1)** : > 1
- Flammability (solid, gas)** : Not applicable.
- Lower flammable limit (% by vol.)** : N/Av
- Upper flammable limit (% by vol.)** : N/Av
- Oxidizing properties** : None.
- Explosive properties** : Not explosive



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Vapour pressure : N/Av
Vapour density : > 1
Relative density / Specific gravity : 1.15
Solubility in water : Complete
Other solubility(ies) : None known.
Partition coefficient: n-octanol/water or Coefficient of water/oil distribution : N/Av
Auto-ignition temperature : N/Av
Decomposition temperature : Not available.
Viscosity : N/Av
Volatiles (% by weight) : Not available.
Volatile organic Compounds (VOC's) : N/Av
Absolute pressure of container : N/Av
Flame projection length : N/Av
Other physical/chemical comments : None known or reported by the manufacturer.

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Not normally reactive. May be corrosive to metals. Contact with metals may release small amounts of flammable hydrogen gas.
Chemical stability : Stable under the recommended storage and handling conditions prescribed.
Possibility of hazardous reactions : No dangerous reaction known under conditions of normal use.
Conditions to avoid : Avoid heat and open flame. Avoid contact with incompatible materials.
Incompatible materials : Oxidizing agents; Metals; Alkalies. Reducing agents.
Hazardous decomposition products : None known, refer to hazardous combustion products in Section 5.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Routes of entry inhalation : YES
Routes of entry skin & eye : YES
Routes of entry Ingestion : YES
Routes of exposure skin absorption : YES

Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms 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.



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Sign and symptoms 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.

Sign and symptoms skin

: This material is classified as hazardous under OSHA regulations (29CFR 1910.1200) (Hazcom 2012). Classification: Skin Irritation - Category 1
 Causes severe skin burns and eye damage.

Sign and symptoms eyes

: This material is classified as hazardous under OSHA regulations (29CFR 1910.1200) (Hazcom 2012). Classification: Eye Damage/Irritation - Category 1
 Causes serious eye damage.

Potential Chronic Health Effects

: 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.

Mutagenicity

: Not expected to be mutagenic in humans.

Carcinogenicity

: No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

Reproductive effects & Teratogenicity

: Not expected to have other reproductive effects.

Sensitization to material

: Not expected to be a skin or respiratory sensitizer.

Specific target organ effects

: This material is classified as hazardous under OSHA regulations (29CFR 1910.1200) (Hazcom 2012). Classification: Specific Target Organ Toxicity, Single Exposure - Category 1 Causes damage to the respiratory system by inhalation.

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Irritancy

: Corrosive

Medical conditions aggravated by overexposure

: Pre-existing skin, eye and respiratory disorders.

Synergistic materials

: Not available.

Toxicological data

: Acute Toxicity, inhalation - Category 3 (vapor)
 The calculated ATE values for this mixture are:
 ATE inhalation (vapours) = 6.02 mg/L

| <u>Chemical name</u> | <u>LC₅₀(4hr)</u> | <u>LD₅₀</u> | |
|----------------------|-----------------------------|------------------------|-------------------------|
| | <u>inh, rat</u> | <u>(Oral, rat)</u> | <u>(Rabbit, dermal)</u> |
| Hydrofluoric acid | 1.83 mg/L | N/Av | N/Av |
| Phosphoric acid | N/Av | > 3500 mg/kg | > 1260 mg/kg |
| Sulfonic N-95 | N/Av | N/Av | N/Av |

Other important toxicological hazards

: None known.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

: 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. See the following tables for individual ingredient ecotoxicity data.



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Ecotoxicity data:

| <u>Ingredients</u> | CAS No | Toxicity to Fish | | |
|--------------------|-----------|-------------------------------|---------------|----------|
| | | LC50 / 96h | NOEC / 21 day | M Factor |
| Hydrofluoric acid | 7664-39-3 | 107.5 mg/L (Rainbow trout) | N/Av | None. |
| Phosphoric acid | 7664-38-2 | 75.1 mg/L (Japanese ricefish) | N/Av | None. |

| <u>Ingredients</u> | CAS No | Toxicity to Daphnia | | |
|--------------------|-----------|--------------------------|---------------|----------|
| | | EC50 / 48h | NOEC / 21 day | M Factor |
| Hydrofluoric acid | 7664-39-3 | 270 mg/L (Water flea) | N/Av | None. |
| Phosphoric acid | 7664-38-2 | 376 mg/L (Daphnia magna) | N/Av | None. |

| <u>Ingredients</u> | CAS No | Toxicity to Algae | | |
|--------------------|-----------|----------------------------|-------------------|----------|
| | | EC50 / 96h or 72h | NOEC / 96h or 72h | M Factor |
| Hydrofluoric acid | 7664-39-3 | N/Av | N/Av | None. |
| Phosphoric acid | 7664-38-2 | 32 mg/L/72hr (Green algae) | N/Av | None. |

Persistence and degradability

: No data is available on the product itself.

Bioaccumulation potential

: No data is available on the product itself.

Mobility in soil

: No data is available on the product itself.

Other Adverse Environmental effects

: No data is available on the product itself.

SECTION 13. DISPOSAL CONSIDERATIONS

Handling for Disposal

: See Section 7 (Handling and Storage) for further details. Empty containers retain residue (liquid and/or vapour) and can be dangerous.

Methods of Disposal

: Dispose in accordance with all applicable federal, state, provincial and local regulations.

RCRA

: 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. TRANSPORTATION INFORMATION

| Regulatory Information | UN Number | UN proper shipping name | Transport hazard class(es) | Packing Group | Label |
|------------------------|-----------|---|----------------------------|---------------|-------|
| TDG | UN3264 | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Hydrofluoric acid; Phosphoric acid) | 8 | II | |



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| | | | | | |
|---|---|--|---|----|--|
| TDG Additional information | Within Canada, the Limited Quantity Exemption may apply for containers which hold specific quantities of the product. Under the TDGR, refer to section 1.17 for Limited Quantity Exemption information, if shipping under this exemption. | | | | |
| 49CFR/DOT | UN3264 | Corrosive liquid, acidic, inorganic, n.o.s. (Hydrofluoric acid; Phosphoric acid) | 8 | II | |
| 49CFR/DOT Additional information | This material may be shipped as a limited quantity according to 49CFR section 173.154. | | | | |
| ICAO/IATA | UN3264 | Corrosive liquid, acidic, inorganic, n.o.s. (Hydrofluoric acid; Phosphoric acid) | 8 | II | |
| ICAO/IATA Additional information | Refer to the appropriate Packing Instruction, prior to shipping this material. Refer to the Manufacturer for shipping information. | | | | |

Special precautions for user :

Environmental hazards : See ECOLOGICAL INFORMATION, Section 12.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code :

SECTION 15 - REGULATORY INFORMATION

US Federal Information:

Components listed below are present on the following U.S. Federal chemical lists:

| <u>Ingredients</u> | CAS # | TSCA Inventory | CERCLA Reportable Quantity(RQ) (40 CFR 117.302): | SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355: | SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical | |
|--------------------|-------------|----------------|--|--|---|--------------------------|
| | | | | | Toxic Chemical | de minimus Concentration |
| Hydrofluoric acid | 7664-39-3 | Yes | 100 lb/ 45.4 kg | 100 lb TPQ | Yes | 1% |
| Phosphoric acid | 7664-38-2 | Yes | (5000 lbs / 2270 kg) | None. | No | N/Ap |
| Sulfonic N-95 | 127087-87-0 | Yes | N/Ap | N/Av | No | N/Ap |

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.

US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

| <u>Ingredients</u> | CAS # | California Proposition 65 | | State "Right to Know" Lists | | | | | |
|--------------------|-------------|---------------------------|------------------|-----------------------------|-----|-----|-----|-----|-----|
| | | Listed | Type of Toxicity | CA | MA | MN | NJ | PA | RI |
| Hydrofluoric acid | 7664-39-3 | No | N/Ap | Yes | Yes | Yes | Yes | Yes | Yes |
| Phosphoric acid | 7664-38-2 | No | N/Ap | No | Yes | Yes | Yes | Yes | Yes |
| Sulfonic N-95 | 127087-87-0 | No | N/Ap | No | No | No | No | No | No |



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Canadian Information:

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

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

International Information:

Components listed below are present on the following International Inventory list:

| <u>Ingredients</u> | <u>CAS #</u> | <u>European EINECs</u> | <u>Australia AICS</u> | <u>Philippines PICCS</u> | <u>Japan ENCS</u> | <u>Korea KECI/KECL</u> | <u>China IECSC</u> | <u>NewZealand IOC</u> |
|--------------------|--------------|------------------------|-----------------------|--------------------------|---------------------------|---------------------------|--------------------|---|
| Hydrofluoric acid | 7664-39-3 | 231-634-8 | Present | Present | (1)-306 | KE-20198 | Present | HSR001537, HSR001568, HSR001569, HSR001570, HSR001589 (dilution) |
| Phosphoric acid | 7664-38-2 | Present | Present | Present | Present | Present | Present | Present |
| Sulfonic N-95 | 127087-87-0 | N/Av | Present | Present | No information available. | No information available. | Present | No information available. |

SECTION 16. OTHER INFORMATION



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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
- 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 :

- Canadian Centre for Occupational Health and Safety, CCInfoWeb Databases, 2015 (Chempendium, RTECs, HSDB, INCHEM).
- European Chemicals Agency, Classification Legislation, 2015
- OECD- The Global Portal to Information on Chemical Substances - eChemPortal, 2015
- Material Safety Data Sheet from manufacturer

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

Reviewed Date SDS (dd/mm/yyyy) : 05/05/2015

Revision No. : 4

Revision Information : All (format change)

Other special considerations for handling

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

Health: *4 *Flammability:* 0 *Reactivity:* 1

NFPA Rating 0 - Minimal 1 - Slight 2 - Moderate 3 - Serious 4 - Severe

: *Health:* 4 *Flammability:* 0 *Instability:* 1 *Special Hazards:* None.





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|---|--|
| <p>Prepared for: Parker Hannifin Corporation - Sporlan Division 206 Lange Drive Washington, MO 63090 USA (636) 239-1111 Direct all enquiries to: Parker Hannifin Corp. - Sporlan Division.</p> |  |
| <p>Prepared by: ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S.); (888) 977-4834 (Canada) http://www.thecompliancecenter.com</p> |  |

DISCLAIMER

This Material Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by / obtained from Parker Hannifin Corp and CCOHS' Web Information Service. The information in the Material Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc and Parker Hannifin Corp expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this MSDS does not apply to use with any other product or in any other process.

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