



ParFlush / Flush-All Solvent

PF-1; PF-2;FA-1; FA-2

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## SAFETY DATA SHEET

### SECTION 1. IDENTIFICATION

**Product identifier used on the label**

: **ParFlush / Flush-All Solvent**

**Product Code(s)** : PF-2 (P/N 475099); PF-1 (P/N 475464);FA-1 (P/N 475481); FA-2 (P/N 475482)

**Recommended use of the chemical and restrictions on use**

: Professional Use Only; Specialty aerosol spray cleaner. (Refrigeration and air conditioning)

**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 A (Pressurized containers)

Class B5 (Flammable Aerosols)

Class D2B (Materials Causing Other Toxic Effects, Toxic Material)

OSHA: This material is classified as hazardous under OSHA regulations (29CFR 1910.1200) Hazardous classification

Compressed gas-Liquefied gas

Flammable Aerosol - Category 1

Eye Damage/Irritation - Category 2B

Specific Target Organ Toxicity, Single Exposure - Category 3 (cns)

**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)*

Contains gas under pressure; may explode if heated.

Extremely flammable aerosol

Causes eye irritation.

May cause drowsiness or dizziness.

*Precautionary statement(s)*



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Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
Do not spray on an open flame or other ignition source.  
Pressurized container: Do not pierce or burn, even after use.  
Wash thoroughly after handling.  
Avoid breathing mist, vapors or spray.  
Use only outdoors or in a well-ventilated area.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
If eye irritation persists, get medical advice/attention.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
Call a POISON CENTER or doctor/physician if you feel unwell.  
Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.  
Keep container tightly closed.  
Store locked up.



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

DANGER!

Contents under pressure. Flammable aerosol. Containers may explode if heated. May be harmful if inhaled or swallowed. May cause headache, nausea, dizziness and other symptoms of central nervous system depression. May cause respiratory irritation. Causes eye irritation. Causes skin irritation.

Wear chemically resistant protective equipment during handling. Use only in well-ventilated areas. Do not breathe vapours or spray mist. Avoid contact with eyes, skin and clothing. Keep away from sources of ignition - No smoking.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Call a POISON CENTRE or doctor/physician. If in eyes, rinse with water for 15 minutes. If eye irritation persists, get medical advice/attention. IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs, get medical advice/attention.



### Other hazards

Other hazards which do not result in classification: Burning produces obnoxious and toxic fumes. Ingestion can cause gastrointestinal irritation, nausea, and diarrhea. May cause respiratory tract irritation. In extremely high concentrations, product may act as an asphyxiant and cause increased breathing and pulse rates, fatigue and unconsciousness.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Chemical name</u>	<u>CAS #</u>	<u>Concentration</u>
trans-1,2-Dichloroethylene	156-60-5	30.0 - 60.0
1,1,1,2-Tetrafluoroethane	811-97-2	15.0 - 40.0
1,1,1,2,2,3,4,5,5,5-Decafluoropentane	138495-42-8	10.0 - 30.0
Ethyl alcohol	64-17-5	3.0 - 7.0

### SECTION 4. FIRST-AID MEASURES



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### Description of first aid measures

- Ingestion* : Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Seek immediate medical attention/advice.
- Inhalation* : Immediately remove person to fresh air. If breathing has stopped, give artificial respiration. Keep warm and in a quiet place. If breathing is difficult, give oxygen by qualified medical personnel only. Get medical attention.
- Skin contact* : Remove contaminated clothing. Wash contaminated area with soap and lukewarm (not hot), gently running water. If irritation persists, seek prompt medical attention. Wash contaminated clothing before re-use.
- Eye contact* : Immediately flush eyes with running water for at least 15 minutes. Seek immediate medical attention/advice.

### Most important symptoms and effects, both acute and delayed

- : May cause eye irritation. Symptoms may include tearing, redness and discomfort. Contact with liquid or refrigerated gas can cause cold burns and frostbite. May cause central nervous system depression. May cause headache, nausea, dizziness and other symptoms of central nervous system depression. May be harmful if inhaled. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

### Indication of any immediate medical attention and special treatment needed

- : Treat symptomatically. This product is a CNS depressant.

## SECTION 5. FIRE-FIGHTING MEASURES

### Extinguishing media

- Suitable extinguishing media*
- : Dry chemical, foam, carbon dioxide and water fog.
- Unsuitable extinguishing media*
- :

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

- : Contents under pressure. Aerosol containers subjected to high heat may explode or rupture and become projectiles. Product may float, and be re-ignited at the water's surface.

### Flammability classification (OSHA 29 CFR 1910.106)

- : Flammable aerosol.

### Explosion Data: Sensitivity to Mechanical Impact / Static Discharge:

- : Not sensitive to static discharge or mechanical impact under normal conditions of use and handling. Aerosols are sensitive to mechanical impact. Contents under pressure.

### Hazardous combustion products

- : Carbon oxides; Hydrogen fluoride; Phosgene; Hydrogen chloride gas; Other unidentified organic compounds.

### Special protective equipment and precautions for firefighters

- Protective equipment for fire-fighters*
- : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
- 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. Avoid spreading burning liquid with water spray used for cooling purposes. Shield personnel to protect from venting or rupturing containers.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

- : Restrict access to area until completion of clean-up. Keep all other personnel upwind and away from the spill/release. Individuals involved in the cleanup must wear appropriate personal protective equipment. Refer to protective measures listed in sections 7 and 8.



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**Environmental precautions** : Ensure spilled product does not enter drains, sewers, waterways, or confined spaces.

**Methods and material for containment and cleaning up**

- : Ventilate the area. Stop spill or leak at source if safely possible. Use only non-sparking tools and equipment in the clean-up process. All persons dealing with clean-up should wear the appropriate protective equipment including self-contained breathing apparatus. Absorb material with inert absorbent, and place into labelled containers for disposal. Refer to Section 13 for disposal of contaminated material. Pressurized container: Do not pierce or burn, even after use.

**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): Trans-1,2-dichloroethylene (1000 lbs / 454 kg)

### SECTION 7. HANDLING AND STORAGE

**Precautions for safe handling**

- : Wear chemically resistant protective equipment during handling. Use only in well-ventilated areas. Do not breathe vapours or spray mist. Avoid contact with eyes, skin and clothing. Keep away from extreme heat and flame. Avoid contact with strong oxidizing agents. Always replace cap after use. Wash thoroughly after handling. Do not puncture or incinerate containers. Keep out of the reach of children.

**Conditions for safe storage**

- : Store in a cool, dry, well ventilated area, away from heat and ignition sources. Store away from incompatibles and out of direct sunlight. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. No smoking in the area. Inspect periodically for damage or leaks.

**Incompatible materials**

- : Acids; Strong bases; Powdered metals; Strong oxidizers (e.g. Chlorine, Peroxides, etc.).

### SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Exposure Limits:**

<u>Chemical Name</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
trans-1,2-Dichloroethylene	200 ppm	N/Av	N/Av	N/Av
1,1,1,2-Tetrafluoroethane	N/Av	N/Av	N/Av	N/Av
1,1,1,2,2,3,4,5,5,5-Decafluoropentane	N/Av	N/Av	N/Av	N/Av
Ethyl alcohol	N/Av	1000 ppm	1000 ppm (1900 mg/m <sup>3</sup> )	N/Av

**Exposure controls**

**Ventilation and engineering measures**

- : Do not use in closed or confined space. Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits.

**Respiratory protection**

- : Use NIOSH/MSHA approved full-face respirator with an organic vapour cartridge if the recommended exposure limit is exceeded. Advice should be sought from respiratory protection specialists.

**Skin protection**

- : Solvent-resistant gloves. Advice should be sought from glove suppliers.

**Eye / face protection**

- : Chemical splash goggles are recommended. Do not wear contact lenses.

**Other protective equipment**

- : An eyewash station and safety shower should be made available in the immediate working area. Depending on conditions of use, an impervious apron should be worn. Remove and wash contaminated clothing before re-use.



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### General hygiene considerations

- : Do not breathe vapours or spray mist. Avoid contact with skin, eyes and clothing. Do not eat, drink, smoke or use cosmetics while working with 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.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance** : Clear liquid in pressurized container.  
**Odour** : Solvent odour.  
**Odour threshold** : N/Av  
**pH** : N/Av  
**Melting/Freezing point** : < -20°C (< -4°F)  
**Initial boiling point and boiling range** : < -26°C (< -14.8°F)  
**Flash point** : 39°C (102°F)  
**Flashpoint (Method)** : Setaflash Closed Tester  
**Evaporation rate (BuAe = 1)** : > 1  
**Flammability (solid, gas)** : Flammable aerosols are not also classified as flammable gases.  
**Lower flammable limit (% by vol.)** : N/Av  
**Upper flammable limit (% by vol.)** : N/Av  
**Oxidizing properties** : None known.  
**Explosive properties** : Aerosols are sensitive to mechanical impact.  
**Vapour pressure** : 4270 mmHg  
**Vapour density** : > 1  
**Relative density / Specific gravity** : 1.005 (concentrate)  
**Solubility in water** : N/Av  
**Other solubility(ies)** : N/Av  
**Partition coefficient: n-octanol/water or Coefficient of water/oil distribution** : N/Av  
**Auto-ignition temperature** : N/Av  
**Decomposition temperature** : N/Av  
**Viscosity** : N/Av  
**Volatiles (% by weight)** : 84  
**Volatile organic Compounds (VOC's)** : 100 g/l  
**Absolute pressure of container** : 0.55 kPa  
**Flame projection length** : N/Av  
**Other physical/chemical comments** : No additional information.

### SECTION 10. STABILITY AND REACTIVITY

- Reactivity** : The product is stable and non-reactive under normal conditions of use, storage and transport.  
**Chemical stability** : Stable under the recommended storage and handling conditions prescribed.  
**Possibility of hazardous reactions** : No dangerous reaction known under conditions of normal use.



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- Conditions to avoid** : Keep out of direct sunlight. Keep away from excessive heat, open flames, sparks and other possible sources of ignition. Do not puncture or incinerate containers.
- Incompatible materials** : Acids; Strong bases; Powdered metals; Strong oxidizers (e.g. Chlorine, Peroxides, etc.).
- 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**

: NO

#### Potential Health Effects:

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

###### *Sign and symptoms Inhalation*

: Inhalation of vapours or mists may cause irritation to the nose, throat and upper respiratory tract. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects. In extremely high concentrations, product may act as an asphyxiant and cause increased breathing and pulse rates, fatigue and unconsciousness.

###### *Sign and symptoms ingestion*

: Swallowing large amounts may be harmful. May cause irritation of mouth, throat, and stomach. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects.

###### *Sign and symptoms skin*

: May cause mild to moderate irritation. If product is sprayed directly on skin, symptoms of frostbite may be experienced including numbness, prickling and itching.

###### *Sign and symptoms eyes*

: Acute eye irritation/corrosion: Category 2B  
Direct eye contact may produce severe irritation with possible eye damage. If product is sprayed directly into the eyes, could cause freezing of the eye.

##### **Potential Chronic Health Effects**

: Prolonged skin contact may cause dermatitis (rash), characterized by red, dry, itching skin.

##### **Mutagenicity**

: Not expected to be mutagenic in humans.

##### **Carcinogenicity**

: No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP. Note that this product contains ethanol, a confirmed animal carcinogen (A3) by the ACGIH and human carcinogen (Group 1) by the IARC; however, this is only applicable when the chemical is present in alcoholic beverages.

##### **Reproductive effects & Teratogenicity**

: Not expected to cause reproductive effects.

##### **Senitization to material**

: Not expected to be a skin or respiratory sensitizer.



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**Specific target organ effects** : Target Organs: : Eyes, skin, respiratory system, digestive system, central nervous system.

The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

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

**Irritancy** : Severe eye irritant. Mild to moderate skin irritant.

**Medical conditions aggravated by overexposure**

: Pre-existing skin, eye, respiratory and central nervous system disorders.

**Synergistic materials**

: N/Av

**Toxicological data**

: There is no available data for the product itself, only for the ingredients. See below for individual ingredient acute toxicity data.

<u>Chemical name</u>	<u>LC<sub>50</sub>(4hr)</u> <u>inh, rat</u>	<u>LD<sub>50</sub></u>	
		<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
trans-1,2-Dichloroethylene	24100 ppm	7900 mg/kg	>5000 mg/kg
1,1,1,2-Tetrafluoroethane	567,000 ppm	N/Av (gas)	N/Av (gas)
1,1,1,2,2,3,4,5,5,5-Decafluoropentane	11100ppm	>5000 mg/kg	>5000 mg/kg
Ethyl alcohol	> 32 380 ppm (61 mg/L) (vapour)	7060 mg/kg	> 15 800 mg/kg

**Other important toxicological hazards**

: CNS depression may result from extreme exposures.

### SECTION 12. ECOLOGICAL INFORMATION

**Ecotoxicity** : Not expected to be harmful to aquatic organisms. Do not release, unmonitored, into the environment.

**Ecotoxicity data:**

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Fish</u>		
		<u>LC50 / 96h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
trans-1,2-Dichloroethylene	156-60-5	74mg/L (Golden orfe)	N/Av	None.
1,1,1,2,2,3,4,5,5,5-Decafluoropentane	138495-42-8	27.2 mg/L (Fathead minnow)	N/Av	None.
Ethyl alcohol	64-17-5	> 100 mg/L (Fathead minnow)	N/Av	None.

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Daphnia</u>		
		<u>EC50 / 48h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
trans-1,2-Dichloroethylene	156-60-5	79mg/L (Water flea)	N/Av	None.
1,1,1,2,2,3,4,5,5,5-Decafluoropentane	138495-42-8	10.6mg/L (Water flea)	N/Av	None.
Ethyl alcohol	64-17-5	5012 mg/L (Daphnia magna)	N/Av	None.



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Ingredients	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
trans-1,2-Dichloroethylene	156-60-5	712mg/L (Green algae)	N/Av	
1,1,1,2,2,3,4,5,5,5-Decafluoropentane	138495-42-8	>120mg/L (Green algae)	N/Av	None.
Ethyl alcohol	64-17-5	1000 mg/L/96hr (Green algae)	N/Av	None.

**Persistence and degradability**

: No data is available on the product itself. Contains: Ethanol.  
 Ethanol is considered to be readily biodegradable.

**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**

: Handle waste according to recommendations in Section 7. Do not puncture or incinerate containers.




**Methods of Disposal**

: Improper disposal can cause damage to the environment. Dispose in accordance with all applicable federal, state, provincial and local regulations. Contact your local, state, provincial or federal environmental agency for specific rules.

**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. For disposal of unused or waste material, check with local, state and federal environmental agencies.

#### SECTION 14. TRANSPORTATION INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	UN1950	Aerosols, flammable	2.1	none	
49CFR/DOT Additional information					
TDG	UN1950	AEROSOLS, flammable	2.1	none	
TDG Additional information	May be shipped as LIMITED QUANTITY when transported in containers no larger than 1.0 Litre, in packages not exceeding 30 kg gross mass.				
ICAO/IATA	UN1950	Aerosols, flammable	2.1	none	
ICAO/IATA Additional information	Refer to ICAO/IATA Packing Instruction				

**Special precautions for user**

: Keep away from heat, sparks and open flame. - No smoking.





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**Environmental hazards** : See ECOLOGICAL INFORMATION, Section 12.

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

: Not available.

### SECTION 15 - REGULATORY INFORMATION

**US Federal Information:**

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

Ingredients	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
trans-1,2-Dichloroethylene	156-60-5	Yes	1000 lb/ 454 kg	N/Av	No	N/Ap
1,1,1,2-Tetrafluoroethane	811-97-2	Yes	N/Ap	N/Av	No	N/Ap
1,1,1,2,2,3,4,5,5,5-Decafluoropentane	138495-42-8	Yes	N/Ap	N/Av	No	N/Ap
Ethyl alcohol	64-17-5	Yes	None.	None.	No	N/Ap

SARA TITLE III: Sec. 311 and 312, MSDS Requirements, 40 CFR 370 Hazard Classes: Pressurized gas hazard; 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:

Ingredients	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
trans-1,2-Dichloroethylene	156-60-5	No	N/Ap	Yes	Yes	No	No	Yes	No
1,1,1,2-Tetrafluoroethane	811-97-2	No	N/Ap	No	No	Yes	No	No	No
1,1,1,2,2,3,4,5,5,5-Decafluoropentane	138495-42-8	No	N/Ap	No	No	No	No	No	No
Ethyl alcohol	64-17-5	Yes	Yes (in alcoholic beverage)	Yes	Yes	Yes	Yes	Yes	Yes

**Canadian Information:**

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

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

**This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and this MSDS contains all the information required by the CPR.**

**International Information:**

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



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Ingredients	CAS #	European EINECS	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
trans-1,2-Dichloroethylene	156-60-5	205-860-2	Present	Present	(2)-103	KE-10123	Present	HSR001122
1,1,1,2-Tetrafluoroethane	811-97-2	212-377-0	Present	Present	(2)-3585	KE-33426	Present	HSR001031
1,1,1,2,2,3,4,5,5,5-Decafluoropentane	138495-42-8	N/Av	Present	Present	Not listed	Not listed	Present	Not listed
Ethyl alcohol	64-17-5	200-578-6	Present	Present	(2)-202	KE-13217	Present	HSR001144

### SECTION 16. OTHER INFORMATION

**Legend**

- : ACGIH: American Conference of Governmental Industrial Hygienists
- CAS: Chemical Abstract Services
- CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
- CFR: Code of Federal Regulations
- CNS: Central Nervous System
- DOT: Department of Transportation
- HMIS: Hazardous Materials Identification System
- HSDB: Hazardous Substances Data Bank
- IARC: International Agency for Research on Cancer
- Inh: Inhalation
- LC: Lethal Concentration
- LD: Lethal Dose
- 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
- 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. Material Safety Data Sheet from manufacturer.
- 2. Canadian Centre for Occupational Health and Safety, CCHInfoWeb Databases, 2015 (Chempendium, RTECs, HSDB, INCHEM).
- 3. European Chemicals Bureau, Existing Chemicals Work Area, EINECS Information System, 2014.
- 4. OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2015.

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**Other special considerations for handling**

:

**HMIS Rating**

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



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

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

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