

# SYSTEM FLUSH

## Instruction Booklet & SDS



**TP TRADE PRO**

# Thank you for your purchase of System Flush HVAC Flushing Solvent

System Flush is a flushing solvent for air conditioning and refrigeration systems, and is formulated for R-410A retrofits, refrigerant conversions and compressor burnouts. System Flush is compatible with CFC and HFC refrigerants and compressor oils. System Flush is the answer for technicians who need a professional quality flushing solvent as well as the components to match. All solvents in System Flush are non-VOC and conform to EPA SNAP standards. System Flush is not HAZMAT for storage and ground transportation. This flushing solvent is:

- **Low toxicity**
- **Residue free**

System Flush is available both in this kit or in a 16 oz. solvent refill. This kit makes servicing quick, easy, and safe as well as making sure you have all the necessary hardware in hand for 1-stop servicing. System Flush will treat up to 500 feet of liquid line. Treatment results will vary depending on the application and conditions of the line set when serviced.

This kit includes:

- **Charging hose**
- **Clip-on funnel**
- **Injector trigger nozzle**
- **Reusable tank with pressure relief valve for added safety**
- **16 oz. container of System Flush**
- **System Flush HVAC & Refrigeration Systems Flush**
- **Detailed Application Bulletin and Instructions**

The System Flush Kit consists of a reusable injection tank (with built-in 200psi pressure relief valve), nitrogen charging hose, injection tool assembly and one 16 oz can of System Flush Solvent. The trigger injector on the tool assembly assures more efficient use of the solvent by allowing infinite control of the flushes rather than the less efficient method of flushing in one long burst. The System Flush Solvent is a dual purpose blend designed to clean line sets in preparation of changing from R-22 to R-410A (mineral oil to POE oil) as well as to flush the contaminants from a system after a compressor burn out. Typically, due to the high acidic level of contamination in a burn out, more solvent will be required in system flushes than in line set flushes. The System Flush Solvent conforms to the EPA Significant New Alternatives Program (SNAP) and is non-ozone depleting and low-toxicity.

## Detailed Instructions: Compressor Burnouts

### I. Equipment required

1. System Flush Kit including one 16 oz. can of System Flush Solvent for every 5-8 tons of system capacity.
2. Re-sealable container to hold the contaminated flush material.
3. Nitrogen tank with regulator.
4. Vacuum pump with accessories.
5. Absorbent shop cloths, rubber gloves and safety goggles.

### II. Detailed Instructions

1. Evacuate the system using approved techniques and recovery equipment.
2. Take the electrical system off-line
3. Remove the old compressor from the system
4. Remove filter drier cores as well as any check valves and reversing valves on heat pumps. It may be faster and less expensive to by-pass the filter drier, check and reversing valves with a by-pass loop.
5. Make sure a re-sealable waste container is attached to a discharge port to capture the flushed acidic contaminants.
6. To maximize solvent contact time, restrict the flow at the discharge port. This will minimize the amount of solvent needed to thoroughly clean the system.
7. Attach the hose and injector tool assembly to the outlet side of the pressure tank. Fill the System Flush Injector pressure tank with System Flush Solvent. A tank may be filled with up to 24 oz. of System Flush. Connect the hose from the regulator of the nitrogen tank to the inlet (ball valve) side of the injector tank.

8. Set the nitrogen gauge at 50 psi, open the regulator valve on the nitrogen tank then slowly open the valve on the injector tank to pressurize it. DO NOT EXCEED 200PSI.
9. Close the valve on the injector tank and nitrogen tank and then disconnect the nitrogen hose from the injection tank.
10. Insert the rubber adapter in the inlet port (fig. B, page 4), maintaining the injector tank in an upright position. Inject System Flush Solvent in 3 second increments in stages (2-3 oz/ton). The number of flushes will depend on the size of the system and the contamination level.
11. Connect the hose from the nitrogen tank to the inlet port of the part that is being flushed and purge the system at 150 psi for 1-2 minutes. This will assure removal of all trace amounts of oil residue and solvents. Check the solvent at the outlet port to be sure all contaminants have been purged from the system. If the exiting solvent is not yet clear repeat steps 10 and 11.
12. Next install the new compressor, new filter drier core and check valves. If the system was bypassed with a loop, remove and reconnect the lines.
13. Using a vacuum pump, evacuate the system to a low micron reading. The typical evacuation time is approximately 3 minutes per ton.
14. Check the system for leaks, then recharge the system with refrigerant and oil per the equipment manufacturer's recommendations.
15. Reconnect the electrical circuitry and test the system again following manufacturer recommendations.
16. Any unused System Flush Solvent can be stored in the injection tank and saved for future use. Ensure all valves are closed on the injection tank to prevent solvent loss during storage. Dispose of the waste solvent in accordance with local and state waste disposal regulations.

## Detailed Instructions: Compressor Burnouts

### I. Equipment required

1. System Flush Kit including one 16 oz. can of System Flush Solvent for every 5-8 tons of system capacity.
2. Re-sealable container to hold the contaminated flush material.
3. Nitrogen tank with regulator.
4. Vacuum pump with accessories.
5. Absorbent shop cloths, rubber gloves and safety goggles.

### II. Detailed Instructions

1. Evacuate the system using approved techniques and recovery equipment.
2. Take the electrical system off-line
3. Remove the old compressor from the system
4. Remove filter drier cores as well as any check valves and reversing valves on heat pumps. It may be faster and less expensive to by-pass the filter drier, check and reversing valves with a by-pass loop.
5. Make sure a re-sealable waste container is attached to a discharge port to capture the flushed acidic contaminants.
6. To maximize solvent contact time, restrict the flow at the discharge port. This will minimize the amount of solvent needed to thoroughly clean the system.
7. Attach the hose and injector tool assembly to the outlet side of the pressure tank. Fill the System Flush Injector pressure tank with System Flush Solvent. A tank may be filled with up to 24 oz. of System Flush. Connect the hose from the regulator of the nitrogen tank to the inlet (ball valve) side of the injector tank
8. Set the nitrogen gauge at 50 psi, open the regulator valve on the nitrogen tank then slowly open the valve on the injector tank to pressurize it. DO NOT EXCEED 200PSI.
9. Close the valve on the injector tank and nitrogen tank and then disconnect the nitrogen hose from the injection tank.
10. Insert the rubber adapter in the inlet port (fig. B, page 4), maintaining the injector tank in an upright position. Inject System Flush Solvent in 3 second increments in stages (2-3 oz/ton). The number of flushes will depend on the size of the system and the contamination level.
11. Connect the hose from the nitrogen tank to the inlet port of the part that is being flushed and purge the system at 150 psi for 1-2 minutes. This will assure removal of all trace amounts of oil residue and solvents. Check the solvent at the outlet port to be sure all contaminants have been purged from the system. If the exiting solvent is not yet clear repeat steps 10 and 11.
12. Next install the new compressor, new filter drier core and check valves. If the system was bypassed with a loop, remove and reconnect the lines.
13. Using a vacuum pump, evacuate the system to a low micron reading. The typical evacuation time is approximately 3 minutes per ton.
14. Check the system for leaks, then recharge the system with refrigerant and oil per the equipment manufacturer's recommendations.
15. Reconnect the electrical circuitry and test the system again following manufacturer recommendations.
16. Any unused System Flush Solvent can be stored in the injection tank and saved for future use. Ensure all valves are closed on the injection tank to prevent solvent loss during storage. Dispose of the waste solvent in accordance with local and state waste disposal regulations.

## Flushing Line Sets for R-22 to R-410A Conversions

### I. Equipment required

1. System Flush Kit including one 16 oz can of System Flush Solvent.
2. Re-sealable container to hold the contaminated flush material.
3. Nitrogen tank with regulator.
4. Vacuum pump with accessories
5. Absorbent shop cloths, rubber gloves and safety goggles.

### II. Detailed Instructions

1. Disconnect and remove old equipment.
2. Make sure a re-sealable waste container is attached to the exit end of the line set to capture the flushed oil. Establish one end of the line set as the discharge point.
3. To maximize solvent contact time, restrict the flow at the discharge point. This will also minimize the amount of solvent needed to thoroughly clean the system. For best results, use a TradePro Line Set Flush Adapter (sold separately) to connect the liquid line and the suction line at the disconnected air handler. Inject solvent into the liquid line and collect solvent at the suction line outdoors at the disconnected condensing unit.
4. Attach the hose and injector tool assembly to the outlet side of the pressure tank. Fill the System Flush Injector pressure tank with System Flush Solvent. A tank may be filled with up to 24 oz. of System Flush. Connect the hose from the regulator of the nitrogen tank to the inlet (ball valve) side of the injector tank (fig. A, page 3).
5. Set the pressure regulator on the nitrogen tank at 50 psi, open the inlet valve at the tank then slowly open the valve on the injector tank to pressurize it. **DO NOT EXCEED 200PSI.**
6. After pressurizing the Injection Tank, close the both valves and disconnect the nitrogen fill hose.
7. Line sets of different diameters, lengths and configurations will require different quantities of System Flush Solvent to achieve complete removal of residual oils.
  - A. For liquid lines, a 16 oz. can of System Flush will typically clean up to 500 ft. of liquid line: Insert the rubber adapter in the inlet of one of the line sets, maintaining the injector tank in an upright position, inject System Flush Solvent in 3 second increments in stages. The number of flushes will depend on the length of the line and the contamination level. A typical line set will require 2 to 3 oz of System Flush to effectively remove the oil residual in the line sets. Results will vary depending on contamination level.
  - B. For larger diameter tubing: Larger diameter line sets will require considerably more System Flush Solvent due to increased volume of the larger tubing. The flushing process will therefore require multiple 3 second injections of System Flush solvent to achieve satisfactory results.
8. Connect the hose from the nitrogen tank to the inlet port (fig. B, page 4) of the part that is being flushed and purge the system at 150 psi for 1-2 minutes. This will assure removal of all trace amounts of oil residue and solvents. Check the solvent at the outlet port to be sure all contaminants have been purged from the system. If the exiting solvent is not yet clear, repeat steps 7 & 8.
9. Connect the new equipment. Using a vacuum pump, evacuate the system to a low micron level.
10. Check the system for leaks, then charge system with the refrigerant and oil per the equipment manufacturer's recommendations.
11. Connect the electrical circuitry and test the system again following manufacturer recommendations.
12. Any unused System Flush Solvent can be stored in the injection tank and saved for future use. Ensure all valves are closed on the injection tank to prevent solvent loss during storage. Dispose of the waste solvent in accordance with local and state waste disposal regulations.

**First Aid: For eye contact, rinse the eyes with running water for 15 minutes, lifting the eyelids occasionally to flush the area behind the lid.**

**If irritation persists, get medical attention. For skin contact, wash the affected area with soap and water, then rinse thoroughly with water. Wash contaminated clothing before re-use. For inhalation, remove affected individual to fresh air. If the victim is not breathing, administer artificial respiration. If breathing is difficult, administer oxygen. Get medical attention. If swallowed, do not induce vomiting. Dilute by drinking 3-4 glasses of water or milk, and call the nearest poison control center or the National Poison Control Hotline at 1-800-222-1222 for advice.**

Manufactured for TradePro™  
1708 Park Central Blvd. North  
Pompano Beach, Florida 33064

Ph.1+800.255.3924 Chem-Tel  
(Chemical Emergencies)



# System Flush

## SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** System Flush HVAC Flushing Solvent

**Catalog Number:** TP-SF-16

**Manufactured for:** TradePro™

1708 Park Central Blvd.  
Pompano, FL, 33064

**Manufactured by:** DiversiTech Corporation

6650 Sugarloaf Parkway  
Duluth, GA, 30097

**Information Phone No.:** 1+678.542.3600

**EMERGENCY Phone No.:** 1 800.255.3924 Chem-Tel (Chemical Emergencies)

**PREPARED BY:** V. Ward

## SECTION 2. HAZARDOUS INGREDIENTS INFORMATION

### GHS Classification:

Acute Toxicity Oral Category 4

Acute Toxicity Inhalation Category 4

Eye Irritation Category 2A

Hazardous to the Aquatic Environment, Chronic Hazard Category 3

### Label Elements:



**Signal Word** Warning!

### Hazard Statement(s)

H302	Harmful if swallowed.
H332	Harmful if inhaled.
H319	Causes serious eye irritation.
H412	Harmful to aquatic life with long lasting effects.

### Precautionary statement(s)

P102	Keep out of reach of children.
P103	Read label before use.
P261	Avoid breathing mist or vapours.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink, or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear safety goggles or a face shield.

### Response

P312	Call a POISON CENTER or doctor if you feel unwell.
P301+312	IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.
P330	Rinse mouth.
P304+340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + 351 + 338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + 313	If eye irritation persists: Get medical attention.
P501	Dispose of contents in accordance with the international and local regulations.

# System Flush

## SECTION 3. HAZARDOUS INGREDIENTS INFORMATION

INGREDIENT	CAS No.	EINECS No.	% Or Range	GHS Classification	
Acetone	67-64-1	200-662-2	10-20	H225: Highly flammable Liquid and vapour H319: Causes serious Eye irritation H401: Toxic to aquatic Life.	Category 2 Category 2A Category 2
t-Butyl Acetate	540-88-55	208-760-7	20-30	H226: Flammable Liquid and vapour H336: May cause Drowsiness or dizziness	Category 3 Category 3
trans 1,2 dichloroethane	156-60-5	205-860-2	50-60	H225: Highly flammable liquid and vapour H332: Harmful if inhaled. H412: Harmful to aquatic Life with long	Category 2 Category 4 Category 3
Ethyl Nonafluoroisobutyl Ether	163702-06-5	98-02-0209-00	10-20	H413: Aquatic Chronic	Category 4
Ethyl Nonafluorobutyl Ether	163702-05-4	98-02-0209-00	10-20	H413: Aquatic Chronic	Category 4

## SECTION 4. FIRST AID MEASURES

### 4.1. Description of first aid measures

**Inhalation:** Remove to fresh air and keep comfortable for breathing. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

**Ingestion:** DO NOT INDUCE VOMITING! Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention if you feel unwell.

**Skin Contact:** Wash with soap and water. Rinse with copious amounts of fresh, running water. If irritation persists, get medical attention.

**Eye Contact:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention if irritation occurs.

### 4.2. Signs and Symptoms of Exposure:

**Inhalation:** Components of Pro-Flush™ are of a low order of toxicity in animals. At high levels of exposure, cardiac arrhythmia may occur. When oxygen levels are reduced to 12-14% by displacement, symptoms of asphyxiation, loss of coordination, increased pulse rate and deeper respiration will occur. Effects from inhalation of mists and vapors vary from mild to moderate irritation of the upper respiratory tract, depending on severity of exposure. Abusive or excessive inhalation of vapors may cause irritation to the upper respiratory tract, dizziness, nausea and other central nervous system effects.

**Ingestion:** Swallowing can cause gastro-intestinal irritation, nausea, vomiting, diarrhea. Aspiration of material into the lungs can cause chemical pneumonitis.

**Skin Contact:** Frequent or prolonged contact may cause mild irritation. Repeated contact may cause drying or flaking of skin.

**Eye Contact:** Mildly irritating.

**Aggravation of Pre-existing Conditions:** Persons with pre-existing skin disorders or eye problems or impaired respiratory function may be more susceptible to the effects of the product.

## SECTION 5. FIREFIGHTING MEASURES

### Suitable and Unsuitable Extinguishing Media:

Use dry chemical, carbon dioxide, foam or other media suitable for the primary source of the fire. Exposure to temperatures above 70°C/160°F may cause containers to burst. Pro-Flush™ is not flammable at ambient temperatures and atmospheric pressure. However, based on similar mixtures, this material will become combustible when mixed with air under pressure and exposed to strong ignition sources. Contact with certain finely divided reactive metals may result in formation of explosive or exothermic reactions under specific conditions (e.g. very high temperatures and/or appropriate pressures). In the event of a liquid spill, ethyl nonafluoroisobutyl ether and ethyl nonafluorobutyl ether will evaporate from the mixture faster than the other components, leaving a mixture enriched with trans-1,2-dichloroethylene, acetone and t-butyl acetate. The enriched mixture may be flammable.

### Special Equipment and Precautions for Fire-Fighters:

Firefighters should wear self-contained breathing apparatus for protection against suffocation and possible toxic decomposition products. Wear proper eye and skin protection. Use a water spray to keep fire-exposed containers cool and to knock down vapors that may result from product decomposition.



# System Flush

## SECTION 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions, Protective Equipment and Emergency Procedures:** Ventilate area of leak or spill. Keep unnecessary and unprotected people away from area of spill. Wear appropriate personal protective equipment and clothing during clean-up.

**Methods and Material for Containment and Clean-Up:** Contain and absorb liquid with clay, vermiculite or other inert substance, sweep up and package in a container suitable for disposal. Wash away residues with water. Dispose of absorbed material in accordance with Federal, local and state regulations.

## SECTION 7. HANDLING AND STORAGE

**Precautions for Safe Handling:** Keep in a tightly closed container. Protect from physical damage. Keep this and all chemicals out of the reach of children. Avoid contact with eyes and skin. Avoid inhalation of vapors and mists. Wash thoroughly after handling.

**Conditions for Safe Storage, Including any Incompatibilities:** Store in a cool, dry, ventilated area away from sources of heat, moisture and incompatible materials. Observe all warnings and precautions listed for the product.

## SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Airborne Exposure Limits:

Substance:	CAS No.	EINECS No.	OSH A PEL	ACIGHTLV	8hrTWA	UK WEL
Acetone	67-64-1	200-662-2	750ppm	750ppm	1210 mg/m3	3620 mg/m3
t-Butyl Acetate	540-88-5	208-760-7	200ppm	200ppm	966 mg/m3	1210 mg/m3
trans 1,2 Dichloroethene	156-60-5	205-860-2	200ppm	None	No Data	No Data
Ethyl Nonafluoroisobutyl Ether	163702-06-5	200ppm	No Data		No Data	
Ethyl Nonafluorobutyl Ether	163702-05-4	200ppm	No Data		No Data	

### Appropriate Engineering Controls:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, [\*Industrial Ventilation. A Manual of Recommended Practices\*](#), most recent edition, for details.

**Personal Respirators:** Not required for normal use in accordance with label directions.

**Skin Protection:** Use rubber, neoprene or nitrile gloves to minimize skin contact.

**Eye Protection:** Use chemical safety goggles and/or a full face shield where splashing is possible. A source of running water or other eyewash provisions should be nearby.

**Work Hygienic Practices:** Use proper industrial hygiene practices to minimize hazardous exposure. Wash hands after handling this material, and before eating, smoking or using the bathroom.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Clear colorless liquid
<b>Odor:</b>	Sweet odor
<b>Odor Threshold:</b>	Not established
<b>pH @ 25°C:</b>	Not applicable
<b>Melting Point (Pour Point):</b>	175°F
<b>Boiling Point:</b>	41°C/106°F
<b>Flash Point:</b>	No Flash Point to boil
<b>Evaporation Rate (Water = 1):</b>	>1
<b>Flammable Limits:</b>	No data for mixture
<b>LEL:</b>	N/A
<b>UEL:</b>	N/A
<b>Vapor pressure (mm Hg):</b>	~1psig, ~16psia
<b>Vapor Density (Air = 1):</b>	3.8 @ 70°F
<b>VOC Content:</b>	0% (all components are VOC exempt)
<b>Solubility in water:</b>	~7 grams/liter
<b>Octanol/Water Partition Coefficient:</b>	Not available
<b>Autoignition Temperature:</b>	Not available
<b>Decomposition Temperature:</b>	Not available

# System Flush

## SECTION 10. STABILITY AND REACTIVITY

**Chemical Stability:** Stable under ordinary conditions of use and storage.

**Possibility of Hazardous Reactions:** Will not occur.

**Conditions to Avoid:** Heat, incompatibles.

**Incompatible Materials:** Avoid contact with strong oxidizing agents, strong alkalis and strong acids.

**Hazardous Decomposition Products:** Carbon monoxide, carbon dioxide, hydrogen sulfide, phosgene.

## SECTION 11. TOXICOLOGICAL INFORMATION

### Potential Health Effects:

**Inhalation:** Components of Pro-Flush™ are of a low order of toxicity in animals. At high levels of exposure, cardiac arrhythmia may occur. When oxygen levels are reduced to 12-14% by displacement, symptoms of asphyxiation, loss of coordination, increased pulse rate and deeper respiration will occur. Effects from inhalation of mists and vapors vary from mild to moderate irritation of the upper respiratory tract, depending on severity of exposure. Abusive or excessive inhalation of vapors may cause irritation to the upper respiratory tract, dizziness, nausea and other central nervous system effects.

**Ingestion:** Swallowing can cause gastro-intestinal irritation, nausea, vomiting, diarrhea. Aspiration of material into the lungs can cause chemical pneumonitis.

**Skin Contact:** Frequent or prolonged contact may cause mild irritation. Repeated contact may cause drying or flaking of skin.

**Eye Contact:** Mildly irritating.

**Aggravation of Pre-existing Conditions:** Persons with pre-existing skin disorders or eye problems or impaired respiratory function may be more susceptible to the effects of the product.

**Carcinogenic effects:** Not classified

**Teratogenicity/Reproductive toxicity:** Not classified

**Mutagenic effects:** Not classified

### Numerical Measures of Toxicity:

#### Acetone:

Inhalation, rat: LC50 = 50100 mg/m<sup>3</sup>/8H;

Oral, mouse: LD50 = 3 gm/kg Oral, rabbit: D50 = 5340 mg/kg Oral, rat: LD50 = 5800 mg/kg Skin, rabbit: LD50 = 20 gm/kg.

#### t-Butyl acetate:

Draize test, rabbit, eye: 100 uL Mild irritant Draize test, rabbit, skin: 500 uL/24H Mild irritant Inhalation, rat: LC50 = >2230 mg/m<sup>3</sup>/4H

Oral, rat: LD50 = 4100 mg/kg Skin, rabbit: LD50 = >2 gm/kg

#### trans 1,2 Dichloroethene:

Acute Dermal (rabbit) LD50: > 5,000mg/kg Acute Inhalation (rat) 4-hr. LC50: >24,100 ppm

#### Ethyl Nonafluoroisobutyl Ether:

Acute Oral Toxicity, LD50-Rat: >2.0 grams/KG body weight.

Acute Inhalation Toxicity, 4-hour LC50-Rat: 92,000ppm

## SECTION 12. ECOLOGICAL INFORMATION

**Ecotoxicity:** Rainbow trout LC50=5540 mg/L/96H; Sunfish (tap water), death at 14250 ppm/24H; Mosquito fish (turbid water) TLm=13000 ppm/48H

**Environmental Fate:** Volatilizes, leeches, and biodegrades when released to soil.

**Physical/Chemical:** No information available.

### t-Butyl Acetate

**Ecotoxicity: Bacteria:** Phytobacterium phosphoreum: EC50 = 6.38-11.1 mg/L; 5, 15, 30 minutes; Microtox test; 15 degrees C Based on a log Kow of 1.38, the BCF value for tert-butyl acetate can be estimated to be 6.6 by a recommended regression-derived equation. This BCF value suggests that bioconcentration is not significant.

**Environmental:** Chemical hydrolysis of tert-butyl acetate in moist, very alkaline soils (pH approaching 10 or higher) may be important, but hydrolysis in soils of pH 9 or lower is not expected to be important. Based on an estimated Koc value of 134, tert-butyl acetate may be subject to significant leaching in soil. Volatilization from dry soil surfaces may be rapid.

**Physical:** ATMOSPHERIC FATE: tert-Butyl acetate will exist almost entirely in the vapor-phase in the ambient atmosphere due to its expected high vapor pressure. The half-life for the vapor-phase reaction of tert-butyl acetate with photochemically produced hydroxyl radicals has been estimated to be about 26 days in an average atmosphere indicating that this reaction may be the dominant atmospheric degradation mechanism. Physical removal via washout may be possible. **Other:** Do not empty into drains.



# System Flush

## SECTION 12. ECOLOGICAL INFORMATION (cont.)

**Other:** For more information, see "HANDBOOK OF ENVIRONMENTAL FATE AND EXPOSURE DATA."

*Ethyl Nonafluoroisobutyl Ether*  
*Ethyl Nonafluorobutyl Ether*

Test Organism	Test Type	Result
Water flea, <i>Daphnia magna</i>	48 hours Effect Concentration 50%	>2.55 mg/l
Fathead Minnow, <i>Pimephales promelas</i>	96 hours Lethal Concentration 50%	>2.75 mg/l
Green algae, <i>Selenastrum capricornutum</i>	96 hours Effect Concentration 50%	>2.32 mg/l

## SECTION 13. DISPOSAL CONSIDERATIONS

Dispose of spill-clean up and other wastes in accordance with Federal, State, and local regulations. Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. All spent material must be disposed of in accordance with all applicable Federal and State RCRA Regulations. Consult with appropriate regulatory agencies before disposing of waste material. The information offered here is for the product as shipped. Use and/or alterations to the product such as mixing with other materials may significantly change the characteristics of the material and alter the RCRA classification and the proper disposal method. The unused product is an RCRA hazardous waste if discarded. The RCRA ID number is: U079 (1,2 dichloroethylene); U002 (Acetone, Ignitability)

## SECTION 14. TRANSPORTATION INFORMATION

**US DOT:** Not regulated for ground transport in quantities below 5 liters.

**International (Water, I.M.O.) Dangerous Goods Description:** UN3082, Environmentally Hazardous Substance, Liquid, NOS (Contains trans 1,2 dichloroethylene), 9, PGIII (Ltd.QTY)

**Marine Pollutant:** No

## SECTION 15. REGULATORY INFORMATION

### US EPA

**Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA)** Spills or releases resulting in the loss of any ingredient at or above its RQ requires immediate notification to the National Response Center [(800) 424-8802] and to your Local Emergency Planning Committee.

**RQ:** 2000 pounds (1,2 dichloroethylene)

**Superfund Amendments and Reauthorization Act of 1986 (SARA)** Title III requires emergency planning based on threshold planning quantities and release reporting based on reportable quantities in 40 CFR 355 (used for SARA 302, 304, 311, and 312) is not required.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)** Title III requires submission of annual reports of release of toxic chemicals that appear in 40 CFR 372 (for SARA 313). This material is not subject to reporting requirements.

**Toxic Substances Control Act (TSCA)** Status: The ingredients of this product are on the TSCA inventory.

### State Right to Know

California Proposition 65: None listed

Massachusetts: Hazardous substances and extraordinarily hazardous substances must be identified.

Pennsylvania: Hazardous substances must be identified.

**California SCAQMD Rule 443.1 (VOC's):** 0%

**SARA 311/312:** Acute: **No** Chronic: **No** Fire: **No** Pressure: **Yes** Reactivity: **No**

### WHMIS:

This SDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by the CPR.

# System Flush

## SECTION 15. REGULATORY INFORMATION (cont.)

Acetone meets the Canadian WHMIS criteria for classes: B2: Flammable and combustible material: Flammable liquid D2B- Poisonous and Infectious material-Other Effects: Toxic Foreign Inventory Status:

Ethyl Nonafluoroisobutyl Ether: Not listed

Ethyl Nonafluorobutyl Ether: Not listed

Trans-1,2-Dichloroethylene Europe: ELINCS #419 170 6 #205-860-2

Trans-1,2-Dichloroethylene Japan: MOL 2-(13)-143

Canada: Notified Listed DSL

Australia: Notified

## SECTION 16. OTHER INFORMATION:

Revision Summary: All Sections: New GHS Format

SDS DATE REVISED: 05/16/2017

HMIS III Ratings

HMIS III®

Health	2
Flammability	1
Physical Hazard	1
Personal Protection	B

*This information is, to the best of our knowledge and belief, accurate and reliable as of the date completed. However no representation, warranty or guarantee is made as to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the completeness and suitability of such information for his own particular use. We do not accept liability for any loss or damage that may occur from the use of this information, nor do we offer any warranty against patent infringement.*