

SDS PF-16-GB
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Total Pages: 6

Diversi-Flush

SECTION 1. IDENTIFICATION OF THE MIXTURE AND OF THE COMPANY

1.1 Product identifier

Diversi-Flush

1.2 Relevant identified uses of the substances or mixture and uses advised against

HVAC System Flushing Solvent.

Uses advised against: Any applications other than those specified above.

1.3 Details of the supplier of the safety data sheet

Manufactured by (USA): DiversiTech Corporation
6650 Sugarloaf Parkway
Duluth, GA 30097

Manufactured for (UK): Pump House
Glaisdale Drive East
Nottingham
NG8 4LY
United Kingdom
Tel: +44 1159005858
Fax: +44 1159294468
Email: www.pumph.co.uk.com

1.4 Emergency telephone number

Emergency tel: 001 +1813 248 0585, 24 Hours, 7 Emergency Days, Chem-Tel, Inc.

SECTION 2. HAZARDOUS IDENTIFICATION

2.1 Classification of the mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

GHS Classification:

Acute Toxicity Oral Category	4
Acute Toxicity Inhalation Category	4
Eye Irritation Category	2B

2.2 Label Elements:



Signal Word: Warning!

Hazard Statement(s)

H302	Harmful if swallowed.
H320	Causes eye irritation.
H332	Harmful if inhaled.
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 fumes or vapours.
P264	Wash 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 protective gloves, eye protection, face protection.
P312	Call your national POISON CENTRE information service or a doctor if you feel unwell.
P301+312	IF SWALLOWED: Call your national POISON CENTRE information service or a 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.
P391	Collect spillage.
P501	Dispose of contents in accordance with the international and local regulations.

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SECTION 2. HAZARDOUS IDENTIFICATION (cont.)

2.3 Other Hazards:

Workplace exposure limit: This product does not have a workplace exposure limit.
 PBT: This product does not contain substances identified as PBT or vPvB.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Name:	CAS Number	EINECS Number	% Composition	Classification according to CHIP
Acetone	67-64-1	200-662-2	1-10	H225: Highly flammable liquid and vapour Category 2 H319: Causes serious Eye irritation Category 2A H401: Toxic to aquatic life. Category 2
Tert-Butyl Acetate (*WEL)	540-88-5	208-760-7	10-30	H226: Flammable liquid and vapour Category 3 H336: May cause drowsiness or dizziness Category 3
Trans-Dichloroethylene	156-60-5	205-860-2	50-70	H225: Highly flammable liquid and vapour Category 2 H332: Harmful if inhaled. Category 4 H412: Harmful to aquatic Category 3
Ethyl Nonafluorobutyl Ether	163702-05-4	98-02-0209-00	1-10	H226: Flammable liquid and vapour Category 3

3.2 Mixtures

No further information

SECTION 4. FIRST AID MEASURES

4.1 Description of first aid measures

Skin contact - Wash skin with soap and water for at least 15 minutes if irritation develops or persists, get medical attention.

Eye contact - Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing lifting lower and upper eyelids occasionally. If irritation persists, get medical attention.

Ingestion - Rinse mouth. Do not induce vomiting. If conscious, give half a litre of water to drink immediately. Call your national POISON CENTRE information service or doctor for medical advice.

Inhalation - Remove person to fresh air and keep comfortable for breathing. If not breathing give artificial respiration. Get medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Harmful by inhalation and ingestion. Inhaling the product may have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Arrhythmia (deviation from normal heart beat). May cause drowsiness and dizziness.

Irritating to eyes and skin. There may be irritation and redness at the site of contact. Swallowing can cause gastro-intestinal irritation, nausea, vomiting and diarrhea. When ingested there may be soreness and redness of the mouth and throat.

4.3 Indication of any immediate medical attention and special treatment needed

If the product is ingested or inhaled immediate medical attention is required.

SECTION 5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Foam, Carbon dioxide extinguishing media for the surrounding fire should be used. Use water spray to cool containers.

5.2 Special hazards arising from the substance or mixture

In combustion emits toxic fumes. Contact with certain finely divided reactive materials may result in formation of explosive or exothermic reactions under specific conditions. 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. Exposure to temperatures above 70°C/160 °C may cause containers to burst.

5.3 Advice for firefighters

Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes. Use water spray to keep fire-exposed containers cool and to knock down vapours that may result from product decomposition.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions

Remove contaminated clothing immediately. Keep unnecessary and unprotected people away from area of spill Mark out the contaminated area with signs and prevent access to unauthorized personnel. Keep spark, flames and heat sources away from spill. Ventilate area of leak or spill. Only personnel equipped with proper respiratory (organic vapour cartridge) and eye/skin protection (neoprene or nitrile gloves and aprons or coveralls; neoprene or urethane boots) should be permitted in the area until air has been tested and determined safe, including low lying areas.

6.2 Environmental precautions

Do not discharge into drains or rivers. Contain the spillage.

6.3 Methods and material for containment and cleaning up

Absorb and contain liquid with clay, vermiculite or other inert substance and package in a recovery drum or other suitable container for disposal.

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SECTION 6. ACCIDENTAL RELEASE MEASURES (cont.)

6.4 Reference to other sections

Please refer to Section 8 for details on protective wear.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Protect from physical damage. Avoid direct contact with the substance. Ensure there is sufficient ventilation of the area. Wash hands after handling.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool dry ventilated area away from sources of extreme heat moisture and incompatibilities; in an area kept below 45 °C. If container temperature exceeds 41 degrees Celsius, cool the can with water before opening cans or filling injector to minimize the risk of splashing or hazardous contact. Do not pierce or burn, even after use. Close container and/or injector valve tightly after use and when empty.

7.3 Specific end use(s):

HVAC System Flushing Solvent.

Industrial section specific solution: None.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

TERT-BUTYL ACETATE

UK - 8 hour TWA: 966 mg/m³

UK - 15 min. STEL: 1210 mg/m³

ACETONE

UK - 8 hour TWA: 1210 mg/m³

UK - 15 min. STEL: 3620 mg/m³

8.2 Exposure 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.

Eye/face protection: Use chemical safety goggles and/or a full face shield where splashing is possible. Ensure eye bath is to hand.

Skin protection:

Hand protection: Butyl rubber gloves. Neoprene gloves. Nitrile gloves.

Other: Wear solvent resistant gloves made of neoprene, nitrile or butyl rubber to minimise skin contact.

Respiratory protection: Self-contained breathing apparatus must be available in case of emergency.

Thermal hazards: Not relevant

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Colourless liquid
Odour	Sweet-smelling
Odour Threshold:	No data available
pH value:	No data available
Melting Point (Pour Point):	21°C: ~ 1 psig, ~ 16psia
Initial boiling point and boiling range:	41°C
Flash Point:	Does not exhibit a flash point as defined by ASTM D93 Pensky-Martens Closed Cup Test.
Flammability limits:	No data available
Auto/Self-ignition temperature:	No data available
Decomposition temperature:	No data available
Relative density	No data available
Vapour density	No data available
Evaporation rate	(Ether = 1): > 1
Solubility	~ 7 grams per L in water
Partition coefficient (n-octanol/water):	No data available
Viscosity	No data available
Explosive properties:	No data available
Oxidising properties:	No data available

9.2 Other information

No further relevant information available.

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SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity

Stable under normal conditions.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Carbon Dioxide. Carbon Monoxide. Hydrogen sulphide. Phosgene gas.

10.4 Conditions to avoid

Heat. Incompatibles.

10.5 Incompatible materials

Avoid contact with strong oxidizing agents, strong alkalis and strong acids.

10.6 Hazardous decomposition products

Carbon Dioxide. Carbon Monoxide. Phosgene gas.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Potential health effects:

11.1.1 Acute Toxicity: Harmful by inhalation and ingestion. Inhaling the product may have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Arrhythmia (deviation from normal heart beat). May cause drowsiness and dizziness.

Oral toxicity (rat) LD50: 1,235 mg/kg (trans-dichloroethylene)

11.1.2 Irritation: If in contact with eye, there may be irritation and pain.

11.1.3 Corrosive: Non-Corrosive.

11.1.4 Sensitisation: Not expected to be a sensitizer.

11.1.5 Repeated dose toxicity: Repeated exposure may cause skin dryness or cracking.

11.1.6 Carcinogenicity: Not expected to be carcinogenic.

11.1.7 Mutagenicity: Not expected to be mutagenic.

11.1.8 Toxicity for reproduction: Not expected to be toxic to reproduction.

11.1.9 Route of exposure: Inhalation

11.1.10 Symptoms related to the physical, chemical and toxicological characteristics: Inhaling the product may have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Arrhythmia (deviation from normal heart beat). May cause drowsiness and dizziness.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

No data.

12.2 Persistence and degradability

Not biodegradable

12.3 Bioaccumulative potential

Bioaccumulation potential.

12.4 Mobility in soil

Readily absorbed into soil.

12.5 Results of PBT and vPvB assessment

This substance is not identified as a PBT substance.

12.6 Other adverse effects

Toxic to aquatic organisms. Toxic to soil organisms.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Disposal operations - Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility.

Disposal of packaging - Ensure that containers are empty before discarding.

Please follow all local, regional, national and international laws.

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SECTION 14. TRANSPORTATION INFORMATION

This product is eligible to ship as Limited Quantity by ground and ocean.

14.1 UN-Number

UN 3082

14.2 UN proper shipping name

Environmentally hazardous substance, liquid, N.O.S. (contains Ethyl Nonafluorobutyl Ether, Ethyl Nonafluoroisobutyl Ether and trans 1,2 Dichloroethylene)

14.3 Transport hazard class(es)

Class 9

14.4 Packing group

III

14.5 Environmental hazards

Environmentally Hazardous Substance

14.6 Special precautions for user

See section 8

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable to packaged goods

Mode-specific information:

ROAD/RAIL (ADR/RID/CDG)	Transport category 3 Tunnel restriction code E
SEA (IMDG)	Marine Pollutant EmS: F-A S-F
AIR (ICAO/IATA)	ERG Code 9L

Goods packed in combination packages with inner packaging's containing a maximum of 5 litres can be carried under the Limited Quantities provisions of the road and sea regulations.

SECTION 15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

The regulatory information given above only indicates the principal regulations specifically applicable to the product described in the safety data sheet. The user's attention is drawn to the possible existence of additional provisions which complete these regulations. Refer to all applicable national, international and local regulations or provisions.

15.2 Chemical safety assessment

A chemical safety assessment has not been conducted.

SECTION 16. OTHER INFORMATION

Other information

This safety data sheet is prepared in accordance with Regulation (EC) No 1272/2008 (CLP).

Revision Summary: All Sections: New GHS Format

Abbreviations:

UN Model Regulations means the Model Regulations annexed to the most recently revised edition of the Recommendations on the Transport of Dangerous Goods published by the United Nations.

IMDG Code means the International Maritime Dangerous Goods code, as amended.

ADR means the European Agreement concerning the International Carriage of Dangerous Goods by Road, as amended.

RID means the Regulations concerning the International Carriage of Dangerous Goods by Rail, as amended.

ADN means the European Agreement concerning the International Transport of Dangerous Goods by Inland Waterways, as amended.

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SECTION 16. OTHER INFORMATION (cont.)

Sources of Key Data:

UK Regulatory References: The Control of Substances Hazardous to Health Regulations 2002 (as amended 2004).

European Regulation (EC) No 1272/2008 on classification, labeling and packaging of substances and mixtures.

Approved Code of Practice: Safety Data Sheets for Substances and Preparations. Classification and Labelling of Substances and Preparations Dangerous for Supply. British Workplace Exposure Limits EH40.

Classification and Labelling Guidance: Globally Harmonized System of Classification and Labelling of Chemicals (GHS), Annex 2

Precautionary Statement and Pictograms: Globally Harmonized System of Classification and Labelling of Chemicals (GHS), Annex 3

Guidance on the Preparation of Safety Data Sheets: Globally Harmonized System of Classification and Labelling of Chemicals (GHS), Annex 4

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