

DIVERSI-FLUSH™

SAFETY DATA SHEET

Issue 1, Version 1, Approved 13 August 2010

7 pages

According to the Commission Regulation (EU) No 453/2010 Annex II of REACH Regulation

SECTION 1: IDENTIFICATION OF MIXTURE AND COMPANY

1.1 Product identifier

Diversi-Flush

1.2 Relevant identified uses of the substances or mixture and of the company/undertaking

HVAC System Flushing Solvent.

1.3 Details of the supplier of the safety data sheet

Pump House - Glaisdale Drive East
Nottingham. NG8 4LY
Phone: +44 0115 900 5858

1.4 Emergency telephone number

Emergency Telephone Number:

+1 813 248 0585 24 Hours, 7 Days, Chem-Tel, Inc.

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the mixture

Classification under CHIP:	[Xn]; R20; R52/53; R66
Workplace exposure limit:	This product does not have a workplace exposure limit.
PBT:	This substance is not identified as a PBT substance.
Directive 1999/45/EC:	This mixture meets the criteria for classification as dangerous in accordance with Directive 1999/45/EC.

Physicochemical hazards: Avoid contact with strong oxidizing agents, strong alkalis and strong acids.

Human health: Harmful by inhalation. When in contact in skin there may be irritation and redness at the site of contact. Irritating to eyes. When ingested there may be soreness and redness of the mouth and throat. 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.

Environment: Toxic to aquatic organisms. Toxic to soil organisms.

Please see Section 16 for full classification.

2.2 Label elements

CHIP:



Harmful

Risk phrases

R20: Harmful by inhalation.

R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R66: Repeated exposure may cause skin dryness or cracking.

Safety Phrases

S23: Do not breathe vapours.

S57: Use appropriate container to avoid environmental contamination.

S60: This material and its container must be disposed of as hazardous waste.

S61: Avoid release to the environment. Refer to special instructions / safety data sheets.

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.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	EC No	CAS No.	Content	Classification
Acetone	67-64-1	200-662-2	1-10	[F] R11; [Xi] R36; [-] R66; [-] R67
Tert-Butyl Acetate (*WEL)	540-88-5	208-760-7	10-30	[F] R11, R66
Trans-Dichloroethylene	156-60-5	205-860-2	50-70	[F] R11, [Xn] R20, R52-53
Ethyl Nonafluorobutyl Ether	163702-05-4	98-02-0209-00	1-10	[-] R18; [-] R53

The full text for all R-Phrases are Displayed in Section 16

SECTION 4: FIRST AID

4.1 Description of first aid measures

Skin contact - Remove all contaminated clothes and footwear immediately unless stuck to skin. Drench the affected skin with running water for 10 minutes or longer if substance is still on skin. Consult a doctor.

Eye contact - Bathe the eye with running water for 15 minutes. Consult a doctor.

Ingestion - Wash out mouth with water. Do not induce vomiting. If conscious, give half a litre of water to drink immediately. To prevent aspiration lay victim on side with head lower than waist. Vomit may occur spontaneously. Consult a doctor

Inhalation - Remove casualty from exposure ensuring one's own safety whilst doing so. If not breathing give artificial respiration. If breathing becomes laboured, give oxygen. Consult a doctor.

4.2 Most important symptoms and effects, both acute and delayed

Harmful by inhalation. 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 gastrointestinal irritation, nausea, vomiting and diarrhoea. When ingested there may be soreness and redness of the mouth and throat.

4.3 Indication of any immediate attention and special treatment needed

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

SECTION 5: FIRE FIGHTING 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 fire-fighters

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, protective equipment and emergency procedures

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 unauthorised 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 using bunding.

6.3 Method for 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.

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 Condition 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 minimise 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)

No further details

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/CHEMICAL CHARACTERISTICS

9.1 Information on basic physical and chemical properties

Appearance:	Colourless liquid
Odour:	Sweet-smelling
Odour threshold:	n.a.
pH:	n.a.
Melting point/freezing point:	21°C: ~ 1 psig, ~ 16psia
Initial boiling point and boiling range:	41°C
Flash point:	n.a.

Evaporation rate:	(Ether = 1): > 1
Flammability limits %	n.a.
Vapour pressure:	n.a
Vapour density	n.a
Relative density:	n.a
Solubility:	~ 7 grams per L in water
Partition Coefficient: n-octanol/water:	n.a.
Auto-ignition temperature:	n.a.
Decomposition temperature:	n.a.
Viscosity:	n.a.
Explosive properties:	n.a.
Oxidising properties:	n.a.

9.2 Other information

No further details

SECTION 10: STABILITY AND REACTIVITY DATA

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 sulfide. 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: TOXICOLOGY INFORMATION

11.1 Information on toxicological effects

Acute Toxicity: Harmful by inhalation. 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.

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

Corrosivity: Non-Corrosive.

Sensitisation: Not expected to be a sensitiser

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

Carcinogenicity: Not expected to be carcinogenic.

Mutagenicity: Not expected to be mutagenic

Toxicity for reproduction: Not expected to be toxic to reproduction

Route of exposure: Inhalation

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.

SECTION 14: TRANSPORTATION INFORMATION

14.1 UN number

UN 3082

14.2 UN proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains Ethyl Nonfluorobutyl Ether, Ethyl Nonfluoroisobutyl 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 packagings 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

According to CHIP

Hazard symbols: Harmful



Risk phrases

R20: Harmful by inhalation.

R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R66: Repeated exposure may cause skin dryness or cracking.

Safety Phrases

S23: Do not breathe vapours.

S57: Use appropriate container to avoid environmental contamination.

S60: This material and its container must be disposed of as hazardous waste.

S61: Avoid release to the environment. Refer to special instructions / safety data sheets.

Note: 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 453/2010.

* indicates text in the SDS which has changed since the last revision.

Risk phrases used in Section 3

R11: Highly flammable.

R20: Harmful by inhalation.

R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R66: Repeated exposure may cause skin dryness or cracking.

R36: Irritating to eyes.

R67: Vapours may cause drowsiness and dizziness.

R18: In use, may form flammable / explosive vapour-air mixture.

R53: May cause long-term adverse effects in the aquatic environment.

Legal disclaimer

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.

