

Safety Data Sheet

FLUSHING FLUID



Safety Data Sheet dated 03/01/2025, version 3.2

This version cancels and substitutes any previous version

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Mixture identification:

Trade name: FLUSHING FLUID

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended use:

Flushing fluid for A/C systems

1.3. Details of the supplier of the safety data sheet

Company:

Mastercool Inc.

1 Aspen Drive, Randolph, NJ 07869

973-252-9119

1.4. Emergency telephone number

ChemTell (800) 255-3924 (MIS0007688)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

EC regulation criteria 1272/2008 (CLP)



Warning, Skin Sens. 1, May cause an allergic skin reaction.



Warning, Carc. 2, Suspected of causing cancer.



Danger, Asp. Tox. 1, May be fatal if swallowed and enters airways.

Aquatic Chronic 3, Harmful to aquatic life with long lasting effects.

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. Label elements

Hazard pictograms:



Danger

Hazard statements:

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

H304 May be fatal if swallowed and enters airways.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements:

P201 Obtain special instructions before use.

P261 Avoid breathing vapours.

P273 Avoid release to the environment.

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P280 Wear protective gloves/clothing and eye/face protection.

Special Provisions:
None

Contains
Hydrocarbons C10-C13, n-alkanes, isoalkanes, cyclic, <2% aromatics
tetrachloroethylene

Special provisions according to Annex XVII of REACH and subsequent amendments:
None

2.3. Other hazards
vPvB Substances: None - PBT Substances: None

Other Hazards:
No other hazards

SECTION 3: Composition/information on ingredients

3.1. Substances

N.A.

3.2. Mixtures

Hazardous components within the meaning of the CLP regulation and related classification:

| Qty | Name | Ident. Number | Classification |
|---------------------|---|--|---|
| >= 2.5% - < 5% | Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, < 2% aromatics | EC: 927-241-2 REACH No.: 01-21194718 43-32-XXXX | B.6/3 Flam. Liq. 3 H226 A.10/1 Asp. Tox. 1 H304 A.8/3 STOT SE 3 H336 US-HAE/C3 Aquatic Chronic 3 H412 |
| >= 95% - < 97.5% | tetrachloroethylene | Index number: 602-028-00-4 CAS: 127-18-4 EC: 204-825-9 REACH No.: 01-21194753 29-28-XXXX | 3.2/2 Skin Irrit. 2 H315 3.3/2 Eye Irrit. 2 H319 3.8/3 STOT SE 3 H336 3.4.2/1 Skin Sens. 1 H317 3.6/2 Carc. 2 H351 4.1/C2 Aquatic Chronic 2 H411 |

SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothing.
Wash contaminated clothing before using them.

In case of eyes contact:

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

In case of Ingestion:

Do NOT induce vomiting.
Call a doctor immediately. Induce vomiting only if indicated by the doctor. Never give anything
by mouth to an unconscious person and if indicated by the doctor.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

4.2. Most important symptoms and effects, both acute and delayed

For symptoms and effects caused by substances, see section 11.

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- 4.3. Indication of any immediate medical attention and special treatment needed
In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).
Treatment:
Treat symptomatically.

SECTION 5: Firefighting measures

- 5.1. Extinguishing media
Suitable extinguishing media:
Water.
Carbon dioxide (CO₂).
Extinguishing media which must not be used for safety reasons:
None in particular.
- 5.2. Special hazards arising from the substance or mixture
Do not inhale explosion and combustion gases.
Burning produces heavy smoke.
- 5.3. Advice for firefighters
Use suitable breathing apparatus.
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Move undamaged containers from immediate hazard area if it can be done safely.

SECTION 6: Accidental release measures

- 6.1. Personal precautions, protective equipment and emergency procedures
Wear personal protection equipment.
Remove persons to safety.
See protective measures under point 7 and 8.
- 6.2. Environmental precautions
Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.
Retain contaminated washing water and dispose it.
In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.
Suitable material for taking up: absorbing material, organic, sand
- 6.3. Methods and material for containment and cleaning up
Vacuum the spilled product into a suitable container. Assess the compatibility of the container to be used with the product, verifying section 10. Absorb the remainder with inert absorbent material.
Ensure adequate ventilation of the place affected by the loss.
Wash with plenty of water.
- 6.4. Reference to other sections
See also section 8 and 13

SECTION 7: Handling and storage

- 7.1. Precautions for safe handling
Keep away from heat, sparks and open flames, do not smoke, use matches or lighters.
Without adequate ventilation, the vapors may accumulate on the ground and ignite at a distance, if triggered off with the risk of flashback. Avoid the accumulation of electrostatic charges.
Avoid dispersal into the environment.
Avoid contact with skin and eyes, inhalation of vapours and mists.
Don't use empty container before they have been cleaned.
Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.
Advice on general occupational hygiene:

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- Contaminated clothing should be changed before entering eating areas.
Do not eat or drink while working.
See also section 8 for recommended protective equipment.
- 7.2. Conditions for safe storage, including any incompatibilities
Store in a cool and well ventilated place.
Store only in the original container.
Keep away from food, drink and feed.
Incompatible materials:
See subsection 10.5
Instructions as regards storage premises:
Adequately ventilated premises.
- 7.3. Specific end use(s)
Information not available.

SECTION 8: Exposure controls/personal protection

- 8.1. Control parameters
Hydrocarbons C10-C13, n-alkanes, isoalkanes, cyclic, <2% aromatics - Index number:
649-327-00-6
RCP-TWA - TWA(8h): 1200 mg/m³, 184 ppm - STEL(15min): 600 mg/m³, 100 ppm
tetrachloroethylene - CAS: 127-18-4
ACGIH - TWA(8h): 170 mg/m³, 25 ppm - STEL(15min): 678 mg/m³, 100 ppm - Notes:
A3, BEI - CNS impair
AGW - TWA(8h): 69 mg/m³, 10 ppm - STEL(15min): 138 mg/m³, 20 ppm
VLA - TWA(8h): 172 mg/m³, 25 ppm - STEL(15min): 689 mg/m³, 100 ppm
VLEP - TWA(8h): 138 mg/m³, 20 ppm - STEL(15min): 275 mg/m³, 40 ppm
WEL - TWA(8h): 345 mg/m³, 50 ppm - STEL(15min): 689 mg/m³, 100 ppm
TLV - TWA(8h): 335 mg/m³, 50 ppm - STEL(15min): 1000 mg/m³, 150 ppm - Notes:
Country: GRC
NDS - TWA(8h): 85 mg/m³ - STEL(15min): 170 mg/m³
NPHV - TWA(8h): 345 mg/m³, 50 ppm
GVI - TWA(8h): 345 mg/m³, 50 ppm - STEL(15min): 689 mg/m³, 100 ppm
EU - TWA(8h): 138 mg/m³, 20 ppm - STEL: 275 mg/m³, 40 ppm - Notes: Skin
TLV - TWA(8h): 120 mg/m³ - Notes: Country: BGR
TLV - TWA(8h): 250 mg/m³ - STEL: 750 mg/m³ - Notes: Country: CZE
AK - TWA(8h): 50 mg/m³ - STEL(15min): 50 mg/m³
- DNEL Exposure Limit Values
tetrachloroethylene - CAS: 127-18-4
Consumer: 138 mg/m³ - Exposure: Human Inhalation - Frequency: Short Term, local effects
Worker Professional: 275 mg/m³ - Exposure: Human Inhalation - Frequency: Short Term, systemic effects
Worker Professional: 275 mg/m³ - Consumer: 138 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, local effects
Consumer: 1.3 mg/kg - Exposure: Human Oral - Frequency: Long Term, systemic effects
Worker Professional: 39.4 mg/kg - Consumer: 23 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects
- PNEC Exposure Limit Values
tetrachloroethylene - CAS: 127-18-4
Target: Soil (agricultural) - Value: 0.01 mg/kg
Target: Fresh Water - Value: 0.051 mg/l
Target: Marine water - Value: 0.0051 mg/l
Target: Marine water sediments - Value: 0.0903 mg/kg
Target: Microorganisms in sewage treatments - Value: 11.2 mg/l

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8.2. Exposure controls

Eye protection:

Protective airtight goggles (ref. Standard EN 166).

Protection for skin:

Full protection suit.

Protection for hands:

Suitable material:

PVA (Polyvinyl alcohol).

Butyl caoutchouc (butyl rubber).

FKM (fluoro rubber).

Material thickness: minimum 0.12 mm.

Break through time : > 480 min

Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

Respiratory protection:

In the case of vapour formation use a respirator with an approved filter.

Mask with filter "AX", brown colour

Thermal Hazards:

None

Environmental exposure controls:

None

Appropriate engineering controls:

None

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance and colour: liquid colorless

Odour: characteristic

Odour threshold: N.A.

pH: N.A.

Melting point / freezing point: N.A.

Initial boiling point and boiling range: N.A.

Solid/gas flammability: N.A.

Upper/lower flammability or explosive limits: N.A.

Vapour density: N.A.

Flash point: 64 ° C

Evaporation rate: N.A.

Vapour pressure: N.A.

Density: 0.78 g/mL (+20°C/+68°F)

Solubility in water: N.A.

Solubility in oil: N.A.

Partition coefficient (n-octanol/water): N.A.

Auto-ignition temperature: N.A.

Decomposition temperature: N.A.

Viscosity: N.A.

Explosive properties: N.A.

Oxidizing properties: N.A.

9.2. Other information

Miscibility: N.A.

Fat Solubility: N.A.

Conductivity: N.A.

Substance Groups relevant properties N.A.

V.O.C. (w/w): 100,0 %

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SECTION 10: Stability and reactivity

- 10.1. Reactivity
 - Stable under normal conditions
 - Tetrachloroethylene is noncombustible, but above 150 ° C / 302 ° F, decomposes. The decomposition also takes place by the action of UV rays and moisture.
- 10.2. Chemical stability
 - Stable under normal conditions
- 10.3. Possibility of hazardous reactions
 - Vapors may form explosive mixtures with air.
- 10.4. Conditions to avoid
 - Avoid overheating, electrostatic discharge and all sources of ignition.
- 10.5. Incompatible materials
 - Strong oxidizing agents.
- 10.6. Hazardous decomposition products
 - When heated or in the event of fire may release gases and vapors potentially dangerous to health.
 - Hydrogen chloride, phosgene, chlorine, tetrachloroethane, other toxic chlorine compounds.

SECTION 11: Toxicological information

- 11.1. Information on toxicological effects
 - Toxicological information of the product:
 - a) acute toxicity
 - Not classified
 - Based on available data, the classification criteria are not met
 - b) skin corrosion/irritation
 - Not classified
 - Based on available data, the classification criteria are not met
 - c) serious eye damage/irritation
 - Not classified
 - Based on available data, the classification criteria are not met
 - d) respiratory or skin sensitisation
 - The product is classified: Skin Sens. 1 H317
 - e) germ cell mutagenicity
 - Not classified
 - Based on available data, the classification criteria are not met
 - f) carcinogenicity
 - The product is classified: Carc. 2 H351
 - g) reproductive toxicity
 - Not classified
 - Based on available data, the classification criteria are not met
 - h) STOT-single exposure
 - Not classified
 - Based on available data, the classification criteria are not met
 - i) STOT-repeated exposure
 - Not classified
 - Based on available data, the classification criteria are not met
 - j) aspiration hazard
 - The product is classified: Asp. Tox. 1 H304
 - Adverse health effects
 - The product must be handled carefully because of its possible carcinogenic effects. But there is not available enough information to proceed with a full assessment.
 - Acute effects: contact with skin may cause irritation, erythema, edema, dryness and chapped skin. Ingestion may cause health disorders, including stomach pain and sting, nausea and vomiting.

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Upon contact with skin causes sensitization (dermatitis). Dermatitis derives as a result of an inflammation of the skin, which begins in the skin areas which repeatedly come into contact with the sensitizing agent. Cutaneous lesions may include erythema, edema, papules, vesicles, pustules, scales, ulcerations and exudative phenomena, whose intensity varies according to illness seriousness and affected areas. In the acute phase prevail erythema, edema and exudation. In chronic phase prevail scaly, dryness, ulcerations and skin thickening.

Toxicological information of the main substances found in the product:

Hydrocarbons C10-C13, n-alkanes, isoalkanes, cyclic, <2% aromatics - Index number: 649-327-00-6

a) acute toxicity:

Test: LD50 - Route: Oral - Species: Rat > 5.000 mg/kg

Test: LD50 - Route: Skin - Species: Rabbit > 5.000 mg/kg

Test: LC50 - Route: Inhalation - Species: Rat > 4.951 mg/m3

tetrachloroethylene - CAS: 127-18-4

a) acute toxicity:

Test: LD50 - Route: Oral - Species: Rat 3.000 mg/kg

Test: LD50 - Route: Skin - Species: Rat 10.000 mg/kg

Test: LC50 - Route: Inhalation - Species: Rat 4.000 ppm - Duration: 4h

SECTION 12: Ecological information

12.1. Toxicity

Adopt good working practices, so that the product is not released into the environment.

The product is classified: Aquatic Chronic 3 - H412

Hydrocarbons C10-C13, n-alkanes, isoalkanes, cyclic, <2% aromatics

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish > 1.000 mg/l - Duration h: 96 - Notes: Oncorhynchus mykiss

Endpoint: EC50 - Species: Daphnia > 1.000 mg/l - Duration h: 48 - Notes: Daphnia magna

Endpoint: EC50 - Species: Algae > 1.000 mg/l - Duration h: 72 - Notes: Pseudokirchneriella subcapitata

tetrachloroethylene

a) Aquatic acute toxicity:

Endpoint: EC50 - Species: Daphnia 18 mg/l - Duration h: 48 - Notes: Daphnia magna

12.2. Persistence and degradability

N.A.

12.3. Bioaccumulative potential

tetrachloroethylene - CAS: 127-18-4

Test: Kow - Partition coefficient 2.53

Test: BCF - Bioconcentration factor 49

12.4. Mobility in soil

tetrachloroethylene - CAS: 127-18-4

Test: Partition coefficient: Soil / water 2.15

12.5. Results of PBT and vPvB assessment

vPvB Substances: None - PBT Substances: None

12.6. Other adverse effects

None

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Recover, if possible. Send to authorised disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force.

SECTION 14: Transport information

- 14.1. UN number
Not classified as dangerous in the meaning of transport regulations.
- 14.2. UN proper shipping name
N.A.
- 14.3. Transport hazard class(es)
N.A.
- 14.4. Packing group
N.A.
- 14.5. Environmental hazards
N.A.
- 14.6. Special precautions for user
N.A.
- 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code
N.A.

SECTION 15: Regulatory information

- 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
 - Dir. 98/24/EC (Risks related to chemical agents at work)
 - Dir. 2000/39/EC (Occupational exposure limit values)
 - Regulation (EC) n. 1907/2006 (REACH)
 - Regulation (EC) n. 1272/2008 (CLP)
 - Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013
 - Regulation (EU) 2015/830
 - Regulation (EU) n. 286/2011 (ATP 2 CLP)
 - Regulation (EU) n. 618/2012 (ATP 3 CLP)
 - Regulation (EU) n. 487/2013 (ATP 4 CLP)
 - Regulation (EU) n. 944/2013 (ATP 5 CLP)
 - Regulation (EU) n. 605/2014 (ATP 6 CLP)
 - Regulation (EU) n. 2015/1221 (ATP 7 CLP)
 - Regulation (EU) n. 2016/918 (ATP 8 CLP)
 - Regulation (EU) n. 2016/1179 (ATP 9 CLP)
 - Regulation (EU) n. 2017/776 (ATP 10 CLP)
 - Regulation (EU) n. 2018/669 (ATP 11 CLP)
 - Regulation (EU) n. 2018/1480 (ATP 13 CLP)
 - Regulation (EU) n. 2019/521 (ATP 12 CLP)
- Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:
 - Restrictions related to the product:
 - Restriction 3
 - Restrictions related to the substances contained:
 - No restriction.
- Where applicable, refer to the following regulatory provisions :
 - Directive 2012/18/EU (Seveso III)
 - Regulation (EC) nr 648/2004 (detergents).
 - Dir. 2004/42/EC (VOC directive)
- Provisions related to directive EU 2012/18 (Seveso III):
 - Seveso III category according to Annex 1, part 1
 - None
- 15.2. Chemical safety assessment

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No Chemical Safety Assessment has been carried out for the mixture.

SECTION 16: Other information

Full text of phrases referred to in Section 3:

H304 May be fatal if swallowed and enters airways.

EUH066 Repeated exposure may cause skin dryness or cracking.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

H411 Toxic to aquatic life with long lasting effects.

| Hazard class and hazard category | Code | Description |
|----------------------------------|---------|--|
| Asp. Tox. 1 | 3.10/1 | Aspiration hazard, Category 1 |
| Skin Irrit. 2 | 3.2/2 | Skin irritation, Category 2 |
| Eye Irrit. 2 | 3.3/2 | Eye irritation, Category 2 |
| Skin Sens. 1 | 3.4.2/1 | Skin Sensitisation, Category 1 |
| Carc. 2 | 3.6/2 | Carcinogenicity, Category 2 |
| STOT SE 3 | 3.8/3 | Specific target organ toxicity - single exposure, Category 3 |
| Aquatic Chronic 2 | 4.1/C2 | Chronic (long term) aquatic hazard, category 2 |
| Aquatic Chronic 3 | 4.1/C3 | Chronic (long term) aquatic hazard, category 3 |

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

| Classification according to Regulation (EC) Nr. 1272/2008 | Classification procedure |
|---|--------------------------|
| Skin Sens. 1, H317 | Calculation method |
| Carc. 2, H351 | Calculation method |
| Asp. Tox. 1, H304 | Calculation method |
| Aquatic Chronic 3, H412 | Calculation method |

This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre,
Commission of the European Communities

SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van
Nostrand Reinold

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This MSDS cancels and replaces any preceding release.

ADR: European Agreement concerning the International Carriage of
Dangerous Goods by Road.

ATE: Acute Toxicity Estimate

ATEmix: Acute toxicity Estimate (Mixtures)

CAS: Chemical Abstracts Service (division of the American Chemical
Society).

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| | |
|-------------|---|
| CLP: | Classification, Labeling, Packaging. |
| DNEL: | Derived No Effect Level. |
| EINECS: | European Inventory of Existing Commercial Chemical Substances. |
| GefStoffVO: | Ordinance on Hazardous Substances, Germany. |
| GHS: | Globally Harmonized System of Classification and Labeling of Chemicals. |
| IATA: | International Air Transport Association. |
| IATA-DGR: | Dangerous Goods Regulation by the "International Air Transport Association" (IATA). |
| ICAO: | International Civil Aviation Organization. |
| ICAO-TI: | Technical Instructions by the "International Civil Aviation Organization" (ICAO). |
| IMDG: | International Maritime Code for Dangerous Goods. |
| INCI: | International Nomenclature of Cosmetic Ingredients. |
| KSt: | Explosion coefficient. |
| LC50: | Lethal concentration, for 50 percent of test population. |
| LD50: | Lethal dose, for 50 percent of test population. |
| PNEC: | Predicted No Effect Concentration. |
| RID: | Regulation Concerning the International Transport of Dangerous Goods by Rail. |
| STEL: | Short Term Exposure limit. |
| STOT: | Specific Target Organ Toxicity. |
| TLV: | Threshold Limiting Value. |
| TWA: | Time-weighted average |
| WGK: | German Water Hazard Class. |