Safety Data Sheet
Flushing Fluid

Safety Data Sheet dated 03/16/2020, version 1
This version cancels and substitutes any previous version

1. IDENTIFICATION

Product identifier
Mixture identification:
Trade name: Flushing Fluid
Recommended use of the chemical and restrictions on use
Recommended use:
Flushing fluid for A/C systems
Restrictions on use:
Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party
Responsible party:
Mastercool Inc.
1 Aspen Drive
Randolph, NJ 07869

Competent person responsible for the safety data sheet:
Emergency phone number

(800)255-3924 (MIS0007688)

2. HAZARD(S) IDENTIFICATION

Classification of the chemical
Warning, Flam. Liq. 4, Combustible liquid.


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.

Label elements
Hazard pictograms:

Danger
Hazard statements:

H227 Combustible liquid.
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.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from open flames — No smoking.
P261 Avoid breathing vapours.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER.
P302+P352 IF ON SKIN: Wash with soap and plenty of water.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P321 Specific treatment (see First Aid information on Section 4 of the SDS and/or on this label).
P331 Do NOT induce vomiting.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P363 Wash contaminated clothing before reuse.
P370+P378 In case of fire, use a CO2 fire extinguisher to extinguish.
P403+P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
P501 Dispose of contents/container in accordance with applicable regulations.

Special Provisions:

None

Hazards not otherwise classified identified during the classification process:

None

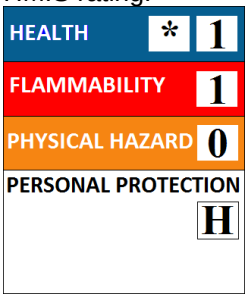
Ingredient(s) with unknown acute toxicity:

None.

Additional classification information

NFPA rating:

HMIS rating:



3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances

N.A.

Mixtures

Hazardous components within the meaning of 29 CFR 1910.1200 and related classification:

Qty	Name	Ident. Number		Classification
>= 5% - < 7%	tetrachloroethylene	Index number:	602-028-00-4	A.2/2 Skin Irrit. 2 H315 A.4.2/1 Skin Sens. 1 H317 A.6/2 Carc. 2 H351 US-HAE/C2 Aquatic Chronic 2 H411
		CAS:	127-18-4	
		EC:	204-825-9	
		REACH No.:	01-21194753 29-28-XXXX	

4. FIRST-AID MEASURES

Description of necessary 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.

In case of Inhalation:

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

Most important symptoms/effects, acute and delayed

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

Indication of 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 simptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media:

In case of fire, use a CO2 fire extinguisher to extinguish.

Unsuitable extinguishing media:

None in particular.

Specific hazards arising from the chemical

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

Hazardous combustion products:

No information available.

Explosive properties: N.A.

Oxidizing properties: N.A.

Special protective equipment and precautions for fire-fighters

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.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures

Wear personal protection equipment.

Remove persons to safety.

See protective measures under point 7 and 8.

Methods and materials for containment and cleaning up

Wash with plenty of water.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.
Exercise the greatest care when handling or opening the container.
Do not use on extensive surface areas in premises where there are occupants.
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.
Contamined clothing should be changed before entering eating areas.
Do not eat or drink while working.
See also section 8 for recommended protective equipment.

Conditions for safe storage, including any incompatibilities

Always keep in a well ventilated place.
Keep away from unguarded flame, sparks, and heat sources. Avoid direct exposure to sunlight.
Keep away from food, drink and feed.
Incompatible materials:
Store containers away from any incompatible materials, checking section 10.
Instructions as regards storage premises:
Cool and adequately ventilated.
Storage temperature:
Store at ambient temperature.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

tetrachloroethylene - CAS: 127-18-4

ACGIH - TWA(8h): 25 ppm - STEL: 100 ppm - Notes: A3, BEI - CNS impair
AGW - TWA(8h): 138 mg/m3, 20 ppm - STEL(15min): 276 mg/m3, 40 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
NDS - TWA(8h): 60 mg/m3 - STEL(15min): 480 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

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

Appropriate engineering controls:
None
Individual protection measures
Eye protection:
Protective airtight goggles (ref. Standard EN 166).
Protection for skin:
Full protection suit.
Protection for hands:
Suitable gloves type:
PVA (Polyvinyl alcohol).
Butyl caoutchouc (butyl rubber).
FKM (fluoro rubber).
Respiratory protection:
In the case of vapour formation use a respirator with an approved filter.
Mask with filter "A", brown colour
Thermal Hazards:
None

9. 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:	171 ° F
Evaporation rate:	N.A.
Vapour pressure:	N.A.
Relative density:	0.806 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.
Miscibility:	N.A.
Fat Solubility:	N.A.
Conductivity:	N.A.
Substance Groups relevant properties	N.A.

10. STABILITY AND REACTIVITY

Reactivity
Stable under normal conditions
Chemical stability
Stable under normal conditions
Possibility of hazardous reactions

Vapors may form explosive mixtures with air.

Conditions to avoid

Avoid overheating, electrostatic discharge and all sources of ignition.

Incompatible materials

Strong oxidizing agents.

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.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Toxicological information of the product:

ALPHA FLUSH

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.

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:
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

Substance(s) listed on the NTP report on Carcinogens:
tetrachloroethylene.
Substance(s) listed on the IARC Monographs:
tetrachloroethylene - Group 2A.
Substance(s) listed as OSHA Carcinogen(s):
None.
Substance(s) listed as NIOSH Carcinogen(s):
tetrachloroethylene.

12. ECOLOGICAL INFORMATION

Ecotoxicity
Adopt good working practices, so that the product is not released into the environment.
ALPHA FLUSH
The product is classified: Aquatic Chronic 3 - H412
tetrachloroethylene - CAS: 127-18-4
a) Aquatic acute toxicity:
Endpoint: EC50 - Species: Daphnia 18 mg/l - Duration h: 48 - Notes: Daphnia magna
Persistence and degradability
N.A.
Bioaccumulative potential
tetrachloroethylene - CAS: 127-18-4
Test: Kow - Partition coefficient 2.53
Test: BCF - Bioconcentrantion factor 49
Mobility in soil
tetrachloroethylene - CAS: 127-18-4
Test: Partition coefficient: Soil / water 2.15
Other adverse effects
None

13. DISPOSAL CONSIDERATIONS

Waste treatment and disposal 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.

14. TRANSPORT INFORMATION

UN number
Not classified as dangerous in the meaning of transport regulations.
UN proper shipping name
N.A.
Transport hazard class(es)
N.A.
Packing group
N.A.
Environmental hazards
N.A.
Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code)
N.A.

Special precautions
N.A.

15. REGULATORY INFORMATION

USA - Federal regulations

TSCA - Toxic Substances Control Act

TSCA inventory: all the components are listed on the TSCA inventory.
TSCA listed substances:
tetrachloroethylene is listed in TSCA Section 8b, Section 8d HSDR, Section 8a - CAIR.

SARA - Superfund Amendments and Reauthorization Act

Section 302 – Extremely Hazardous Substances: no substances listed.
Section 304 – Hazardous substances: tetrachloroethylene.
Section 313 – Toxic chemical list: tetrachloroethylene.

CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act

Substance(s) listed under CERCLA: tetrachloroethylene - Reportable quantity: 100 pounds.
Reportable quantity for mixture: 2000 pounds.

CAA - Clean Air Act

CAA listed substances:
tetrachloroethylene is listed in CAA Section 112(b) - HON, Section 112(b) - HAP, Section 111.

CWA - Clean Water Act

CWA listed substances:
tetrachloroethylene is listed in CWA Section 304, Section 307, CWA Priority Pollutants.

USA - State specific regulations

California Proposition 65

Substance(s) listed under California Proposition 65:
tetrachloroethylene - Listed as carcinogen.

Massachusetts Right to know

Substance(s) listed under Massachusetts Right to know:
tetrachloroethylene.

New Jersey Right to know

Substance(s) listed under New Jersey Right to know:
tetrachloroethylene.

Pennsylvania Right to know

Substance(s) listed under Pennsylvania Right to know:
tetrachloroethylene.

16. OTHER INFORMATION

Full text of phrases referred to in Section 3:

H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.
H411 Toxic to aquatic life with long lasting effects.

Safety Data Sheet dated 5/6/2019, version 1
Disclaimer:
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. The information relates only to the specific material and may not be valid for such material used in combination with any other material or in any process.
This Safety Data Sheet cancels and replaces any preceding release.

ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road.
CAS:	Chemical Abstracts Service (division of the American Chemical Society).
CLP:	Classification, Labeling, Packaging.
DNEL:	Derived No Effect Level.
EINECS:	European Inventory of Existing Commercial Chemical Substances.
GHS:	Globally Harmonized System of Classification and Labeling of Chemicals.
HMIS:	Hazardous Materials Identification System
IARC:	International Agency for Research on Cancer
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.
NFPA:	National Fire Protection Association
NIOSH:	National Institute for Occupational Safety and Health
NTP:	National Toxicology Program
OSHA:	Occupational Safety and Health Administration
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