HPC Standards GmbH
Am Wieseneck 7
04451 Cunnersdorf
Phone 0049 34291 3372-36
Fax 0049 34291 3372-39
www.hpc-standards.com
contact@hpc-standards.com

Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH)
Classifications according to Regulation (EC) No 1272/2008.
Printdate 16 Sep 2024

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product name:

BSTFA + 1 % TMCS (97%)

1.1. Catalog No.:

681459

1.2. Relevant identified uses of the substance or mixture

Identified uses: Laboratory chemical
R&D

1.3. Uses advised against:

HPC Standards GmbH
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Deutschland

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Fax. +49 34291 3372-39
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1.4. Emergency telephone number

HPC Standards Tel. +49 34291 3372-36
This number is only available during office hours.

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008
Flammable liquids (Category 2), H225
Skin irritation (Category 2), H315
Eye irritation (Category 2), H319
For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2. Label elements

2.2.1. Pictogram

2.2.2.

Labelling according Regulation (EC) No 1272/2008
Pictogram
Signal Word Danger

Hazard statement(s)
H225 Highly flammable liquid and vapor.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
Precautionary statement(s)
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P240 Ground and bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Supplemental Hazard Statements
none
2.3 Other hazards
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
Ecological information:
The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
Toxicological information:
The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures
Synonyms : BSTFA + TMCS
Silylating mixture Fluka V

Component	Classification	Concentration
trimethylsilyl 2,2,2-trifluoro-N-(trimethylsilyl)acetimidate CAS-No. EC-No. 25561-30-2 247-103-9 *	Flam. Liq. 3; Skin Irrit. 2; Eye Irrit. 2; H226, H315, H319	>= 90 - <= 100 %
chlorotrimethylsilane CAS-No. EC-No. Registration number 75-77-4 200-900-5 01-2119457596-25-XXXX	Flam. Liq. 2; Acute Tox. 3; Acute Tox. 4; Skin Corr. 1A; Eye Dam. 1; H225, H301, H331, H312, H314, H318	>= 1 - < 3 %

*A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.
For the full text of the H-Statements mentioned in this Section, see Section 16.

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3.1.1. Formula

C8H18F3NOSi2

3.1.2. Molecular Weight (g/mol)

257.40

3.1.3. CAS-No.

25561-30-2

4. FIRST AID MEASURES

4.1 Description of first-aid measures
General advice
Show this material safety data sheet to the doctor in attendance.
If inhaled
After inhalation: fresh air.
In case of skin contact
In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.
In case of eye contact
After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.
If swallowed
After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.
4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11
4.3 Indication of any immediate medical attention and special treatment needed
No data available

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media
Suitable extinguishing media
Carbon dioxide (CO2) Dry powder
Unsuitable extinguishing media
Water Foam
5.2 Special hazards arising from the substance or mixture
Carbon oxides

Nitrogen oxides (NOx)
Hydrogen chloride gas
Hydrogen fluoride
silicon oxides
Combustible.
Pay attention to flashback.
Vapors are heavier than air and may spread along floors.
Development of hazardous combustion gases or vapours possible in the event of fire.
Forms explosive mixtures with air at ambient temperatures.
5.3 Advice for firefighters
Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.
5.4 Further information
Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition.
Evacuate the danger area, observe emergency procedures, consult an expert.
For personal protection see section 8.
6.2 Environmental precautions
Do not let product enter drains. Risk of explosion.
6.3 Methods and materials for containment and cleaning up
Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb®).
Dispose of properly. Clean up affected area.
6.4 Reference to other sections
For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling
Advice on protection against fire and explosion
Keep away from open flames, hot surfaces and sources of ignition.Take precautionary measures against static discharge.
Hygiene measures
Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.
For precautions see section 2.2.
7.2 Conditions for safe storage, including any incompatibilities
Storage conditions
Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.
Moisture sensitive. Handle and store under inert gas. Hydrolyzes readily.
Storage class
Storage class (TRGS 510): 3: Flammable liquids
7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters
Ingredients with workplace control parameters
8.2 Exposure controls
Personal protective equipment
Eye/face protection
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses
Skin protection
This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves.
Splash contact
Material: Viton®
Minimum layer thickness: 0,70 mm
Break through time: 120 min
Material tested:Vitoject®
Body Protection
Flame retardant antistatic protective clothing.
Respiratory protection
required when vapours/aerosols are generated.
Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.
Recommended Filter type: Filter type ABEK
The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.
Control of environmental exposure
Do not let product enter drains. Risk of explosion.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties
a) Physical state clear, liquid
b) Color colorless
c) Odor No data available
d) Melting
point/freezing point
No data available
e) Initial boiling point
and boiling range
45 - 50 °C at 19 hPa
f) Flammability (solid,
gas)
No data available
g) Upper/lower
flammability or
explosive limits
No data available
h) Flash point 6,7 °C - closed cup
i) Autoignition
temperature
No data available
j) Decomposition
temperature
No data available
k) pH No data available
l) Viscosity Viscosity, kinematic: No data available
Viscosity, dynamic: No data available
m) Water solubility No data available
n) Partition coefficient: No data available
n-octanol/water
o) Vapor pressure No data available
p) Density 0,970 g/cm3
Relative density No data available
q) Relative vapor
density
No data available

r) Particle
characteristics
No data available
s) Explosive properties Not classified as explosive.
t) Oxidizing properties none

9.2 Other safety information
No data available

10. STABILITY AND REACTIVITY

10.1 Reactivity
Vapors may form explosive mixture with air.
10.2 Chemical stability
The product is chemically stable under standard ambient conditions (room temperature) .
10.3 Possibility of hazardous reactions
Violent reactions possible with:
Strong oxidizing agents
Water
acids
10.4 Conditions to avoid
Warming.
10.5 Incompatible materials
Hydrolyzes in water to produce hexamethyldisilazane (HMDS), a flammable, corrosive, and harmful material
10.6 Hazardous decomposition products
In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects
Mixture
Acute toxicity
Oral: No data available
Acute toxicity estimate Inhalation - 4 h - > 20 mg/l - vapor(Calculation method)
Symptoms: Possible symptoms:, mucosal irritations
Acute toxicity estimate Dermal - > 2.000 mg/kg
(Calculation method)
Skin corrosion/irritation
Remarks: Mixture causes skin irritation.
Serious eye damage/eye irritation
Remarks: Mixture causes serious eye irritation.
Respiratory or skin sensitization
No data available
Germ cell mutagenicity
No data available
Carcinogenicity
No data available
Reproductive toxicity
No data available
Specific target organ toxicity - single exposure
No data available
Specific target organ toxicity - repeated exposure
No data available
Aspiration hazard
No data available
11.2 Additional Information
Endocrine disrupting properties
Product:
Assessment : The substance/mixture does not contain

components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting
Other dangerous properties can not be excluded.
Handle in accordance with good industrial hygiene and safety practice.
Components
trimethylsilyl 2,2,2-trifluoro-N-(trimethylsilyl)acetimidate
Acute toxicity
Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.
Symptoms: Possible damages:, Irritation symptoms in the respiratory tract.
Dermal: No data available
Skin corrosion/irritation
Remarks: Causes skin irritation.
Serious eye damage/eye irritation
Remarks: Causes serious eye irritation.
Respiratory or skin sensitization
No data available
Germ cell mutagenicity
No data available
Carcinogenicity
No data available
Reproductive toxicity
No data available
Specific target organ toxicity - single exposure
Acute oral toxicity - Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.
Acute inhalation toxicity - Possible damages:, Irritation symptoms in the respiratory tract.
Specific target organ toxicity - repeated exposure
No data available
Aspiration hazard
No data available
chlorotrimethylsilane
Acute toxicity
Acute toxicity estimate Oral - 100 mg/kg
(Expert judgment)
LC50 Inhalation - Rat - male and female - 4 h - 9,4 mg/l - vapor
(OECD Test Guideline 403)
LD50 Dermal - Rabbit - male and female - 1.513 mg/kg
(OECD Test Guideline 402)
Skin corrosion/irritation
Skin - Rabbit
Result: Causes burns. - 4 h
(OECD Test Guideline 404)
Serious eye damage/eye irritation
Eyes - Rabbit
Result: Causes burns.
(Draize Test)
Remarks: Causes serious eye damage.
Respiratory or skin sensitization
No data available
Germ cell mutagenicity
Test Type: Ames test
Test system: Escherichia coli/Salmonella typhimurium
Result: negative
Test Type: Mutagenicity (mammal cell test): chromosome aberration.
Test system: Mouse lymphoma test
Result: negative
Test Type: In vitro mammalian cell gene mutation test
Test system: Mouse lymphoma test
Result: negative
Method: OECD Test Guideline 475
Species: Rat - male - Bone marrow
Result: negative
Carcinogenicity
No data available
Reproductive toxicity
No data available
Specific target organ toxicity - single exposure
No data available
Specific target organ toxicity - repeated exposure
Aspiration hazard
No data available

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12. ECOLOGICAL INFORMATION

12.1 Toxicity
Mixture
No data available
12.2 Persistence and degradability
No data available
12.3 Bioaccumulative potential
No data available
12.4 Mobility in soil
No data available
12.5 Results of PBT and vPvB assessment
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
12.6 Endocrine disrupting properties
Product:
Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
12.7 Other adverse effects
No data available
Components
trimethylsilyl 2,2,2-trifluoro-N-(trimethylsilyl)acetimidate
No data available
chlorotrimethylsilane
Toxicity to fish semi-static test LC50 - Oncorhynchus mykiss (rainbow trout) - 271 mg/l - 96 h
(OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates
semi-static test EC50 - Daphnia magna (Water flea) - 124 mg/l - 48 h
(OECD Test Guideline 202)
Toxicity to algae static test EC50 - Pseudokirchneriella subcapitata - 566 mg/l - 72 h
(OECD Test Guideline 201)
Toxicity to bacteria EC50 - activated sludge - 6.670 mg/l
(OECD Test Guideline 209)

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
No data available

14. TRANSPORT INFORMATION

14.1 UN number
ADR/RID: 1993 IMDG: 1993 IATA: 1993
14.2 UN proper shipping name
ADR/RID: FLAMMABLE LIQUID, N.O.S. (chlorotrimethylsilane)
IMDG: FLAMMABLE LIQUID, N.O.S. (chlorotrimethylsilane)
IATA: Flammable liquid, n.o.s. (chlorotrimethylsilane)
14.3 Transport hazard class(es)
ADR/RID: 3 IMDG: 3 IATA: 3
14.4 Packaging group
ADR/RID: II IMDG: II IATA: II
14.5 Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no
14.6 Special precautions for user
Tunnel restriction code : (D/E)
Further information : No data available

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.
National legislation
Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.
P5c
FLAMMABLE LIQUIDS
P5c
FLAMMABLE LIQUIDS
Other regulations
Take note of Dir 94/33/EC on the protection of young people at work.
15.2 Chemical Safety Assessment
For this product a chemical safety assessment was not carried out

16. OTHER INFORMATION

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. For lab use only!