

1. Identification of the substance and of the company

1.1 Product identifiers

Product name PSS PFG Column in tetrahydrofuran (less than 15ml)

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

Identified uses Chromatography column
SDS refers to contents of the column
PFA0830051E2 - PFG 100Å, 8 x 300 mm, 5µm, GPC/SEC column
PFA0830051E2LS - PFG Lux 100Å, 8 x 300 mm, 5µm, GPC/SEC column, pre-equilibrated for use with light scattering detectors
PFA083005LIS - PFG linear S, 8 x 300 mm, 5µm, GPC/SEC column
PFA0830071E2 - PFG 100Å, 8 x 300 mm, 7µm, GPC/SEC column
PFA0830071E3 - PFG 1000Å, 8 x 300 mm, 7µm, GPC/SEC column
PFA0830073E2 - PFG 300Å, 8 x 300 mm, 7µm, GPC/SEC column
PFA0830074E3 - PFG 4000Å, 8 x 300 mm, 7µm, GPC/SEC column
PFA083007LIM - PFG linear M, 8 x 300 mm, 7µm, GPC/SEC column
PFA083007LIMLS - PFG Lux linear M, 8 x 300 mm, 7µm, GPC/SEC column, pre-equilibrated for use with light scattering detectors
PFA083007LXL - PFG linear XL, 8 x 300 mm, 7µm, GPC/SEC column
PFA083007LXLLS - PFG Lux linear XL, 8 x 300 mm, 7µm, GPC/SEC column, pre-equilibrated for use with light scattering detectors

1.3 Details of the supplier of the safety data sheet

Company PSS Polymer Standards Service GmbH
In der Dalheimer Wiese 5
D - 55120 Mainz

Technical phone +49 6131 - 96239 - 0

Fax +49 6131 - 96239 -11

Email sds@pss-polymer.com

1.4 Emergency telephone number

24-hour emergency contact number: +1 872 5888271 (PSS)

2. Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]

Flammable liquids (Category 2), H225

Acute toxicity, Oral (Category 4), H302

Eye irritation (Category 2), H319

Carcinogenicity (Category 2), H351

Specific target organ toxicity – single exposure (Category 3), Respiratory system, H335

For the full text of the H-Statements mentioned in this Section, see Section 16.

Note: The product is intended for use as in chromatographic column. Use only as directed and in accordance with good laboratory practices. No safety and health hazard should be present, because the compounds are enclosed in the product. Only in case of release, is there a potential safety and health hazard.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP]

Pictogram



Safety Data Sheet



Product name: PSS PFG in THF (analytical and microbore)
Date Updated: 2023-01-20
Version: 2.2

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Signal word	Danger	
Hazard statement(s)		
Hazard Statements	H225	Highly flammable liquid and vapour.
	H302	Harmful if swallowed.
	H319	Causes serious eye irritation.
	H335	May cause respiratory irritation.
	H351	Suspected of causing cancer.
Precautionary statement(s)	P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
	P280	Wear protective gloves/ protective clothing.
	P301 + P312 + P330	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.
	P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P370 + P378	In case of fire: Use dry powder or dry sand to extinguish.
	P403 + P235	Store in a well-ventilated place. Keep cool.
Supplemental Hazard Information (EU) EUH019	May form explosive peroxides.	

Restricted to professional users.

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.

3. Composition/ information on ingredients

3.1 Substances

Synonyms: pfa# e.g. pfa0830071e2
pfm# e.g. pfm0525051e2
Component: Silicon dioxide, amorphous, beads –
in tetrahydrofuran (less than 15 ml)

Component Number	1	2
Component Name	Silicon dioxide, amorphous, beads	Tetrahydrofuran
CAS No	N/A	109-99-9
EC Number	N/A	203-726-8
Index Number	N/A	603-025-00-0
EC 1272/2008 hazard class, code and statement	N/A	Flam. Liq. 2; Acute Tox. 4; Eye Irrit. 2; Carc.2; STOT SE3; H225, H302, H319, H351, H335 Concentration limits: >=25%: Eye Irrit. 2, H319;

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%wt (approx)	43-47	>=25%: STOT SE 3, H335; 53-57
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4. First aid measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. 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. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Carbon oxides, Sulphur oxides

5.3 Advice for fire fighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

Use water spray to cool unopened containers.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

6.4 Reference to other sections

For disposal see section 13.

7. Handling and storage

7.1 Precautions for safe handling

Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

For precautions see section 2.2.

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7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Dry residue is explosive. Store under inert gas. Test for peroxide formation periodically and before distillation.
Store class (TRGS 510): Flammable liquids

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

8. Exposure controls / personal protection

8.1 Control parameters

Components with workplace control parameters

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling. Keep away from foodstuffs, beverages and feed. Immediately remove contaminated clothing.

Personal protective equipment

Eye/face protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves must satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks.

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

9.2 Other safety information

Component Number	1	2
Component Name	Silicon dioxide, amorphous, beads	Tetrahydrofuran
Appearance:	solid / fluid	liquid
Odour	no data available	ether-like
Odour Threshold	no data available	no data available

pH	no data available	no data available
BP/BP Range	no data available	65-67°C
Mp/Mp Range	no data available	-108°C
Flash Point	no data available	no data available
Flammability	no data available	no data available
Autoignition Temp.	500°C	no data available
Oxidizing Properties	no data available	no data available
Explosive Properties	no data available	no data available
Explosion Limits	no data available	no data available
Vapor Pressure	no data available	no data available
SG/Density	no data available	0.89 g/cm ³
Partition Coefficient	no data available	no data available
Viscosity	no data available	no data available
Evaporation Rate	no data available	no data available
Solubility in Water:	Insoluble	completely miscible
Molecular Weight	no data available	72.11 g/mol
Viscosity @ °C	no data available	no data available
no data available		

10. Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

Heat, flames and sparks.

10.5 Incompatible materials

Strong oxidizing agents, acids

10.6 Hazardous decomposition products

Other decomposition products - no data available

11. Toxicological information

11.1 Information on toxicological effects

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Acute toxicity

Tetrahydrofuran:

LD50 Oral - Rat – 1.650 mg/kg

LC50 Inhalation - Rat - 6 h – 14.7 mg/l

Remark: Material may be irritating to mucous membranes and upper respiratory tract.

LD50 Dermal - Rat - > 2.000 mg/kg

Skin corrosion/irritation

Tetrahydrofuran:

Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation

Tetrahydrofuran:

Eyes - Rabbit

Result: Risk of serious damage to eyes.

Respiratory or skin sensitisation

Tetrahydrofuran:

Based on available data, the classification criteria are not met.

Germ cell mutagenicity

Tetrahydrofuran:

In vivo tests did not show mutagenic effects.

Ames test: *S. typhimurium*, result: negative

Carcinogenicity

Tetrahydrofuran:

Suspected human carcinogens

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

Tetrahydrofuran:

No toxicity to reproduction.

Specific target organ toxicity - single exposure

Tetrahydrofuran:

May cause drowsiness or dizziness (nerve system).

May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Potential health effects

Inhalation May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion May be harmful if swallowed.

Skin May be harmful if absorbed through skin. May cause skin irritation.

Eyes May cause eye irritation.

Additional Information

Tetrahydrofuran:

Central nervous system depression, cough, chest pain, difficulty in breathing, exposure to high airborne concentrations can cause anaesthetic effects.

12. Ecological information

12.1 Toxicity

Tetrahydrofuran:

Toxicity to fish LC50 - *Pimephales promelas* (fathead minnow) - 2.160 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates

EC50 - *Daphnia magna* (Water flea) - 382 mg/l - 24h

Toxicity to algae Growth inhibition IC50 - algae - 3.700 mg/l - 192 h

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

Tetrahydrofuran:

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 Other adverse effects

no data available

13. Disposal considerations

13.1 Waste treatment methods

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

14. Transport information

This SDS is written based on the encapsulated substance or mixture in this article. Since the hazardous ingredient/s is/are encapsulated, the risk of exposure by inhalation, ingestion, skin contact, and eye contact is minimized.

IATA

UN-No.	UN3175
Proper Shipping Name	SOLIDS CONTAINING FLAMMABLE LIQUIDS N.O.S. (TETRAHYDROFURAN)
Hazard Class	4.1
Packing Group	II
Special Provisions	None

TDG

UN-No.	UN3175
Proper Shipping Name	SOLIDS CONTAINING FLAMMABLE LIQUIDS N.O.S. (TETRAHYDROFURAN)
Hazard Class	4.1
Packing Group	II

DOT

UN-No.	UN3175
Proper Shipping Name	SOLIDS CONTAINING FLAMMABLE LIQUIDS N.O.S. (TETRAHYDROFURAN)
Hazard Class	4.1
Packing Group	II

IMDG

UN-No.	UN3175
Proper Shipping Name	SOLIDS CONTAINING FLAMMABLE LIQUIDS N.O.S. (TETRAHYDROFURAN)
Hazard Class	4.1
Packing Group	II
EmS-No.	F-A, S-I
Marine Pollutant	Not applicable

15. Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

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

no data available

15.2 Chemical Safety Assessment

no data available

16. Other information

Full text of H-Statements referred to under sections 2 and 3.

EUH019 May form explosive peroxides.
H225 Highly flammable liquid and vapour.
H302 Harmful if swallowed.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H351 Suspected of causing cancer.

WARRANTY

The information in this document is based on the present state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product. PSS GmbH shall not be held liable for any damage resulting from handling or from contact with the above product.

DISCLAIMER

For R&D use only. Not for drug, household, or other uses.