



Printing date 18.07.2018 Version number 2 Revision: 18.07.2018

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

- · 1.1 Product identifier
- · Trade name: Ätzmittel für PTFE
- 1.2 Relevant identified uses of the substance or mixture and uses advised against
 No further relevant information available.
- · Application of the substance / the mixture Discharging agent
- · 1.3 Details of the supplier of the safety data sheet
- · Manufacturer/Supplier:

Spengler Fluorkunststoffe GmbH & Co. KG

Buchenring 20 D-42281 Wuppertal Tel.: +49 202 8702790 Fax: +49 202 8702786

Fax: +49 202 8702786 Website: www.sp-ptfe.de e-Mail: info@sp-ptfe.de

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• 1.4 Emergency telephone number: Phone +49 202 8702790

SECTION 2: Hazards identification

- · 2.1 Classification of the substance or mixture
- · Classification according to Regulation (EC) No 1272/2008



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS08 health hazard

Carc. 2 H351 Suspected of causing cancer.



GHS05 corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.



GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.

(Contd. on page 2)

Printing date 18.07.2018 Version number 2 Revision: 18.07.2018

Trade name: Ätzmittel für PTFE

(Contd. from page 1)



STOT SE 3 H335 May cause respiratory irritation.

- · 2.2 Label elements
- · Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

· Hazard pictograms











GHS02 GHS05 GHS07 GHS08 GHS09

· Signal word Danger

· Hazard-determining components of labelling:

tetrahydrofuran

sodium

naphthalene

· Hazard statements

H225 Highly flammable liquid and vapour.

H314 Causes severe skin burns and eye damage.

H351 Suspected of causing cancer.

H335 May cause respiratory irritation.

H411 Toxic to aquatic life with long lasting effects.

· Precautionary statements

P102 Keep out of reach of children.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition

sources. No smoking.

P261 Avoid breathing mist/vapours/spray. P273 Avoid release to the environment.

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

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin

with water [or shower].

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact

lenses, if present and easy to do. Continue rinsing.

P403+P235 Store in a well-ventilated place. Keep cool.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local / regional / national /

international regulations.

· Additional information:

Packaging of whatever capacity that is delivered to the general public shall be fitted with a tactile warning of danger according to EN ISO 11683.

Packaging of whatever capacity supplied to the general public shall be fitted with child-resistant fastenings.

EUH019 May form explosive peroxides.

- · 2.3 Other hazards
- · Results of PBT and vPvB assessment
- · PBT: Not applicable.
- · vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

- · 3.2 Chemical characterisation: Mixtures
- · **Description:** Mixture consisting of the following components.

(Contd. on page 3)

Printing date 18.07.2018 Version number 2 Revision: 18.07.2018

Trade name: Ätzmittel für PTFE

	(C	ontd. from page 2)
· Dangerous components:		
CAS: 109-99-9 EINECS: 203-726-8 Reg.nr.: 01-2119444314-46-X	tetrahydrofuran ♠ Flam. Liq. 2, H225; ♦ Carc. 2, H351; ♦ Eye Irrit. 2, H319; STOT SE 3, H335	50 - 100%
CAS: 91-20-3	naphthalene Carc. 2, H351; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H302	≥ 10 - < 25%
CAS: 7440-23-5 EINECS: 231-132-9 Reg.nr.: 01-2119484805-27-X	sodium	≥ 5 - ≤ 10%

[·] Additional information For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

- · 4.1 Description of first aid measures
- · General information

Instantly remove any clothing contaminated by the product.

If symptoms occur or in case of doubt consult a doctor.

· After inhalation

Take affected persons into the open air and position comfortably

Call a doctor immediately.

· After skin contact

Remove contaminated clothing.

Instantly wash with water and soap and rinse thoroughly.

In case of permanent aches and pains please go and see the doctor.

If skin irritation continues, consult a doctor.

· After eye contact

Keep eye lids open and rinse them with ample amounts of clean running water for at least 15 minutes.

Call a doctor immediately.

· After swallowing

Rinse out mouth and then drink plenty of water.

Instantly call for doctor.

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

No further relevant information available.

· 4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

- · 5.1 Extinguishing media
- · Suitable extinguishing agents

Extinguishing powder, carbon dioxide.

Sand

- · For safety reasons unsuitable extinguishing agents Water.
- · 5.2 Special hazards arising from the substance or mixture

Vapours are heavier than air and may travel long distances along ground, ignite and flash back to source.

Can form explosive gas-air mixtures.

Can be released in case of fire:

Carbon monoxide and carbon dioxide

Metal oxides

Strongly alkaline solutions originate from the use of water for fire fighting.

- · 5.3 Advice for firefighters
- · *Protective equipment:* Wear self-contained breathing apparatus.

(Contd. on page 4)

Printing date 18.07.2018 Version number 2 Revision: 18.07.2018

Trade name: Ätzmittel für PTFE

(Contd. from page 3)

· Additional information

Cool closed containers near by fire source with water.

Collect contaminated fire fighting water separately. It must not enter drains. Provide sufficient fire fighting water retention.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

SECTION 6: Accidental release measures

· 6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

Keep away from ignition sources

Ensure adequate ventilation

Avoid contact with the product.

· 6.2 Environmental precautions:

Inform respective authorities in case product reaches water or sewage system.

Do not allow to enter pits and cellars.

- 6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders).

Send for recovery or disposal in suitable containers.

Complete cleaning with water.

· 6.4 Reference to other sections

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

SECTION 7: Handling and storage

· 7.1 Precautions for safe handling

Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).

Avoid contact with eyes, skin and clothes.

Do not inhale gases/vapours/aerosols.

Do not eat, drink or smoke while working.

Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

· 7.2 Conditions for safe storage, including any incompatibilities

· Storage

· Requirements to be met by storerooms and containers:

Accessible only for authorized persons.

Store only in the original container.

Ensure sufficient ventilation.

· Information about storage in one common storage facility:

Keep away from strong oxidizing, alkalis and acidic materials.

Further information about storage conditions:

Must be stored in a collecting room.

Keep container tightly sealed.

Storage temperature < 10℃.

Protect from heat and direct sunlight.

Protect from humidity and keep away from water.

· 7.3 Specific end use(s) No further relevant information available.

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Printing date 18.07.2018 Version number 2 Revision: 18.07.2018

Trade name: Ätzmittel für PTFE

(Contd. from page 4)

SECTION 8: Exposure controls/personal protection

· 8.1 Control parameters

· Components with limit values that require monitoring at the workplace:

WEL: workplace exposure limit

IOELV: Indicative Occupational Exposure Limit Values, workplace threshold value of the European

Union	dicative Occupational Ex	posure Limit vali	ues, workplace threshold value of the European
109-99-9 t	etrahydrofuran		
WEL (Great Britain) Short-ter		rm value: 300 mg m value: 150 mg	
IOELV (Eu	uropean Union) Short-te Long-ter Skin	rm value: 300 mg m value: 150 mg	g/m³, 100 ppm g/m³, 50 ppm
91-20-3 na	aphthalene		
IOELV (Eu	ropean Union) Long-ter	m value: 30 mg/	m ³ , 10 ppm
· DNELs			
109-99-9 t	etrahydrofuran		
Oral	DNEL (consumer, long-	term, systemic)	1.5 mg/kg bw/day (human)
Dermal	DNEL (worker, long-terr	n, systemic)	12.6 mg/kg bw/day (human)
	DNEL (consumer, long-	term, systemic)	1.5 mg/kg bw/day (human)
Inhalative	DNEL (worker, short-ter	m, systemic)	96 mg/m³ (human)
	DNEL (worker, long-terr	n, systemic)	72.4 mg/m³ (human)
	DNEL (consumer, short	-term, systemic)	52 mg/m³ (human)
	DNEL (consumer, long-term, systemic)		13 mg/m³ (human)
	DNEL (worker, short-ter	m, local)	300 mg/m³ (human)
	DNEL (worker, long-terr	n, local)	150 mg/m³ (human)
	DNEL (consumer, short	-term, local)	150 mg/m³ (human)
	DNEL (consumer, long-term, local)		75 mg/m³ (human)
91-20-3 na	aphthalene		
Dermal	DNEL (worker, long-terr	n, systemic)	3.57 mg/kg bw/day (human)
Inhalative	DNEL (worker, long-terr	n, systemic)	25 mg/m³ (human)
	DNEL (worker, long-terr	n, local)	25 mg/m³ (human)
· PNECs			
109-99-9 t	etrahydrofuran		
PNEC aqu	ıa (freshwater)	4.32 mg/L (.)	
PNEC aqu	ıa (marine water)	0.432 mg/L (.)	
PNEC STI	PNEC STP		
PNEC soil PNEC sediment (freshwater) PNEC sediment (marine water)		2.13 mg/kg soil	dw (.)
		23.3 mg/kg sed	lim. dw (.)
		2.33 mg/kg sed	lim. dw (.)
PNEC aqu	PNEC aqua (intermittent releases)		
PNEC ora		67 mg/kg food ((.)
	aphthalene		
PNEC aqua (freshwater)		0.0024 mg/L (.) 0.0024 mg/L (.)	
•	PNEC aqua (marine water)		
PNEC STI		2.9 mg/L (.)	
PNEC soil		0.0533 mg/kg s	oil dw (.)

(Contd. on page 6)

Printing date 18.07.2018 Version number 2 Revision: 18.07.2018

Trade name: Ätzmittel für PTFE

(Contd. from page 5)

PNEC sediment (freshwater)

PNEC sediment (marine water)

PNEC aqua (intermittent releases)

0.0672 mg/kg sedim. dw (.)

0.0672 mg/kg sedim. dw (.)

- · Additional information: The lists that were valid during the compilation were used as basis.
- · 8.2 Exposure controls
- Personal protective equipment
- · General protective and hygienic measures

Handle product only in sufficiently ventilated areas.

Do not eat, drink or smoke while working.

Keep away from foodstuffs, beverages and food.

· Breathing equipment:

In case of insufficient removal by suction or longer inhalation a breathing protection is required. Filter Type A.

· Protection of hands:



Protective gloves.

There is no suitable material for protective gloves for this substance. The recommended protective glove has to be replaced often

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

· Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Nitrile rubber, NBR

Chloroprene rubber, CR

· Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Value for the permeation: Level = 1

Eye protection:



Tightly sealed safety glasses.

· Body protection: Solvent resistant protective clothing

SECTION 9: Physical and chemical properties

- · 9.1 Information on basic physical and chemical properties
- · General Information
- · Appearance:

Form: Fluid
Colour: Green

Odour: Characteristic

Odour threshold: Not determined.

· pH-value (200 g/l) at 20 ℃: 7 - 8

· Change in condition

Melting point/freezing point: ca. -108 ℃

(Contd. on page 7)

Printing date 18.07.2018 Version number 2 Revision: 18.07.2018

Trade name: Ätzmittel für PTFE

	(Contd. from page
Initial boiling point and boiling range	9: 65 - 67 ℃
· Flash point:	-20 ℃ (DIN 51755)
· Inflammability (solid, gaseous)	Not applicable.
· Ignition temperature:	> 115 ℃
· Decomposition temperature:	Not determined.
· Explosive properties:	May form explosive peroxides.
· Critical values for explosion: Lower: Upper:	1.5 Vol % 12.0 Vol %
· Vapour pressure at 20 ℃:	67 mbar
 Density at 20 ℃ Relative density Vapour density Evaporation rate 	ca. 0.92 g/cm ³ Not determined. Not determined. Not determined.
· Solubility in / Miscibility with Water:	Not miscible or difficult to mix
· Partition coefficient: n-octanol/water:	0.45 log POW
· Viscosity: dynamic: kinematic:	Not determined. Not determined.
· Solvent content: · Organic solvents: · VOC EU	90 %
· Solids content: · 9.2 Other information	10 % No further relevant information available.

SECTION 10: Stability and reactivity

- · 10.1 Reactivity No further relevant information available.
- · 10.2 Chemical stability
- Thermal decomposition / conditions to be avoided: Avoid temperatures above 25°C.
- · 10.3 Possibility of hazardous reactions

Explosive reaction with water

In contact with water hydrogen is generated, which can form explosive atmospheres.

Possible formation of peroxide

- 10.4 Conditions to avoid No further relevant information available.
- · 10.5 Incompatible materials: Acids, bases, oxidizers.
- 10.6 Hazardous decomposition products:

Carbon monoxide and carbon dioxide

Hydrogen

SECTION 11: Toxicological information

- · 11.1 Information on toxicological effects
- · Acute toxicity Based on available data, the classification criteria are not met.

(Contd. on page 8)

Printing date 18.07.2018 Version number 2 Revision: 18.07.2018

Trade name: Ätzmittel für PTFE

			(Contd. from page 7)
	· LD/LC50	values	that are relevant for classification:
ſ	109-99-9 t	etrahy	rdrofuran
ľ	Oral	LD50	2,045 mg/kg (rat)
	Dermal	LD50	> 2,000 mg/kg (rat) (OECD 402)
ľ	91-20-3 na	aphtha	ilene
ľ	Oral	LD50	533 mg/kg (mouse) (OECD 401)
	Dermal	LD50	> 2,500 mg/kg (rat)
	Inhalative	LC50	> 0.4 mg/l/4h (rat) (OECD 403)

Primary irritant effect:

· Skin corrosion/irritation

Causes severe skin burns and eye damage.

· Serious eye damage/irritation

Causes serious eye damage.

· Respiratory or skin sensitisation Based on available data, the classification criteria are not met.

· Repeat	· Repeated dose toxicity		
109-99-	109-99-9 tetrahydrofuran		
Oral	NOAEL (28d)	1,000 mg/kg bw/day (rat) (OECD 407)	
91-20-3	91-20-3 naphthalene		
Oral	NOAEL (90d)	100 mg/kg bw/day (rat) (OECD 408)	
Dermal	NOAEL (90d)	1,000 mg/kg bw/day (rat) (OECD 411)	

- · CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)
 Carc. 2
- · Germ cell mutagenicity Based on available data, the classification criteria are not met.
- · Carcinogenicity

Suspected of causing cancer.

- · Reproductive toxicity Based on available data, the classification criteria are not met.
- STOT-single exposure

May cause respiratory irritation.

- · STOT-repeated exposure Based on available data, the classification criteria are not met.
- · Aspiration hazard Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity	· Aquatic toxicity:		
109-99-9 tetrah	109-99-9 tetrahydrofuran		
EC50 (static)	EC50 (static) 5,930 mg/l/24h (Daphnia magna) (DIN 38412-11)		
LC50 (dynamic)	LC50 (dynamic) 2,160 mg/l/96h (Pimephales promelas) (OECD 203)		
91-20-3 naphtha	91-20-3 naphthalene		
EC50 (static)	EC50 (static) 2.16 mg/l/48h (Daphnia magna) (OECD 202)		
LC50 (dynamic)	6.08 mg/l/96h (Pimephales promelas)		

- 12.2 Persistence and degradability No further relevant information available.
- Other information: There are no data available about the preparation.
- 12.3 Bioaccumulative potential No further relevant information available.
- · 12.4 Mobility in soil No further relevant information available.
- Additional ecological information:
- · General notes:

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water.

Do not allow product to reach ground water, water bodies or sewage system.

Danger to drinking water if even small quantities leak into soil.

(Contd. on page 9)

Printing date 18.07.2018 Version number 2 Revision: 18.07.2018

Trade name: Ätzmittel für PTFE

(Contd. from page 8)

- · 12.5 Results of PBT and vPvB assessment
- · PBT: Not applicable.
- · vPvB: Not applicable.
- 12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

- · 13.1 Waste treatment methods
- · Recommendation

Proceed according to local, official regulations.

The waste code numbers mentioned are recommendations based on the probable use of the product.

· European waste catalogue	
07 00 00	WASTES FROM ORGANIC CHEMICAL PROCESSES
07 07 00	wastes from the MFSU of fine chemicals and chemical products not otherwise specified
07 07 04*	other organic solvents, washing liquids and mother liquors

- · Uncleaned packagings:
- · Recommendation:

Disposal must be made according to official regulations.

Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning.

SECTION 14: Transport information

- · 14.1 UN-Number
- · ADR, IMDG, IATA UN2056
- · 14.2 UN proper shipping name

· **ADR** 2056 TETRAHYDROFURAN,

ENVIRONMENTALLY HAZARDOUS

· **IMDG** TETRAHYDROFURAN, MARINE POLLUTANT

TETRAHYDROFURAN

- · 14.3 Transport hazard class(es)
- · ADR

· IATA





· Class 3 (F1) Flammable liquids.

· Label

· IMDG





· Class 3 Flammable liquids.

(Contd. on page 10)

Printing date 18.07.2018 Version number 2 Revision: 18.07.2018

Trade name: Ätzmittel für PTFE

	(Contd. from page
Label	3
IATA	
Class	3 Flammable liquids.
Label	3
14.4 Packing group	
ADR, IMDG, IATA	II
14.5 Environmental hazards:	Product contains environmentally hazardous substances: naphthalene
Marine pollutant:	Yes
	Symbol (fish and tree)
Special marking (ADR):	Symbol (fish and tree)
14.6 Special precautions for user	Warning: Flammable liquids.
Kemler Number:	33
EMS Number:	F-E,S-D
Stowage Category	В
14.7 Transport in bulk according to An of Marpol and the IBC Code	nex II Not applicable.
Transport/Additional information:	
ADR	
Limited quantities (LQ)	1L
Excepted quantities (EQ)	Code: E2
===== - -==== 1 ================================	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 500 n
Transport category	2
Tunnel restriction code	D/E
LINE HAR and a L. D. annolla C. annill	UN 2056 TETRAHYDROFURAN, 3, II,
UN "Model Regulation":	ON 2000 TETRATTIDICOTORAN, 5, 11,

SECTION 15: Regulatory information

- · 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- · Directive 2012/18/EU
- · Named dangerous substances ANNEX I None of the ingredients is listed.
- · Seveso category

E2 Hazardous to the Aquatic Environment

P5c FLAMMABLE LIQUIDS

- · Qualifying quantity (tonnes) for the application of lower-tier requirements 200 t
- · Qualifying quantity (tonnes) for the application of upper-tier requirements 500 t
- · REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3
- · National regulations
- · Information about limitation of use:

Employment restrictions concerning young persons must be observed.

Employment restrictions concerning pregnant and lactating women must be observed.

· Water hazard class: Water hazard class 2 (Self-assessment): hazardous for water.

(Contd. on page 11)

Revision: 18.07.2018 Printing date 18.07.2018 Version number 2

Trade name: Ätzmittel für PTFE

(Contd. from page 10)

· Substances of very high concern (SVHC) according to REACH, Article 57

None of the ingredients is contained.

· 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Relevant phrases

H225 Highly flammable liquid and vapour.

H260 In contact with water releases flammable gases which may ignite spontaneously.

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H351 Suspected of causing cancer.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

· Department issuing data specification sheet:

This Material Safety Data Sheet has been drawn up in cooperation with:

DEKRA Assurance Services GmbH, Hanomagstr. 12, D-30449 Hanover, Germany,

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Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Flammable liquids - Category 2

Water-react. 1: Substances and mixtures which in contact with water emit flammable gases - Category 1

Acute Tox. 4: Acute toxicity - Category 4

Skin Corr. 1B: Skin corrosion/irritation - Category 1B

Eye Dam. 1: Serious eye damage/eye irritation – Category 1 Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Carc. 2: Carcinogenicity – Category 2 STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard - Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard - Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard - Category 2

* Data compared to the previous version altered.