

Trade name: Pemulen TR-1 NF

Substance number: 066965

Version: 1 / CH

Date revised: 16.10.2026

Replaces Version: - / CH

Print date: 16.10.26

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

1.1. Product identifier

Pemulen TR-1 NF

Item No. 06696500

1.3. Details of the supplier of the safety data sheet

Address/Manufacturer

Hänseler AG

Industriestrasse 35

9100 Herisau

Telephone no. 0041 (0)71 353 58 58

E-mail address of sdb@haenseler.ch

person responsible

for this SDS

1.4. Emergency telephone number

Switzerland :145 / Abroad +41 (0)44 251 51 51

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (Regulation (EC) No. 1272/2008)

Classification (Regulation (EC) No. 1272/2008)

Aquatic Chronic 3 H412

The product is classified and labelled in accordance with Regulation (EC) No 1272/2008

For explanation of abbreviations see section 16.

2.2. Label elements

Labelling according to regulation (EC) No 1272/2008

Hazard statements

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P273 Avoid release to the environment.

P501.3 Disposal in compliance with local and national regulations.

Reduced labeling (<= 125 ml)

Hazard statements

H412 Harmful to aquatic life with long lasting effects.

2.3. Other hazards

The product contains no PBT substances. The product contains no vPvB substances. This product does not contain a substance that has endocrine disrupting properties with respect to human. The product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms.

SECTION 3: Composition/information on ingredients

Hazardous ingredients

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cyclohexane

CAS No.	110-82-7	
EINECS no.	203-806-2	
Concentration	>= 0.25	< 1 %
Classification (Regulation (EC) No. 1272/2008)		
	Flam. Liq. 2	H225
	Asp. Tox. 1	H304
	Skin Irrit. 2	H315
	STOT SE 3	H336
	Aquatic Acute 1	H400
	Aquatic Chronic 1	H410

acrylic acid

CAS No.	79-10-7	
EINECS no.	201-177-9	
Concentration	>= 0.1	< 1 %
Classification (Regulation (EC) No. 1272/2008)		
	Flam. Liq. 3	H226
	Acute Tox. 4	H302
	Acute Tox. 4	H312
	Acute Tox. 4	H332
	Skin Corr. 1A	H314
	Aquatic Acute 1	H400

Concentration limits (Regulation (EC) No. 1272/2008)

STOT SE 3	H335	>= 1 %
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Additional remarks:

CLP Regulation (EC) No 1272/2008, Annex VI, Note D

SECTION 4: First aid measures**4.1. Description of first aid measures****After inhalation**

If necessary, give oxygen. If breathing is irregular or stopped, administer artificial respiration. In the event of symptoms take medical treatment. Remove the casualty into fresh air and keep him calm.

After skin contact

Wash off with soap and water. Consult a doctor if skin irritation persists.

After eye contact

When exposed to water (moisture), this product swells to form a gel-like film, which can be difficult to remove from the eye using water alone. Rinse immediately with a 1 per cent physiological saline solution for five (5) minutes, keeping the eyelid open. If no saline solution is available, rinse with plenty of clean water for fifteen (15) minutes. Summon a doctor immediately. Remove contact lenses

After ingestion

Take medical treatment.

4.3. Indication of any immediate medical attention and special treatment needed**Hints for the physician / treatment**

Symptomatic treatment, no specific antidote known.

SECTION 5: Firefighting measures**5.1. Extinguishing media**

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Suitable extinguishing media

Water spray jet, Dry powder, Foam

Non suitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

Can build mixtures of gas and air which are capable of explosion. Take precautionary measures against static charges. Keep away sources of ignition. Burning produces irritant fumes. In the event of fire the following can be released: Carbon monoxide (CO); Carbon dioxide (CO₂)

5.3. Advice for firefighters**Special protective equipment for fire-fighting**

Use self-contained breathing apparatus.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Wear protective equipment

6.2. Environmental precautions

Do not discharge into the drains/surface waters/groundwater.

6.3. Methods and material for containment and cleaning up

Suitable industrial vacuum cleaners or central exhaust ventilation equipment must be used for taking up dust (with a suitable filter to prevent particles blowing back into the atmosphere e.g. Type H(BS5415)). Forms slippery surfaces with water. Take up mechanically and collect in suitable container for disposal. Avoid raising dust.

6.4. Reference to other sections

Information regarding personal protective measures, see Section 8. Information regarding waste disposal, see Section 13.

SECTION 7: Handling and storage**7.1. Precautions for safe handling****Advice on safe handling**

Provide good ventilation of working area (local exhaust ventilation if necessary). Wear protective equipment. Avoid dust formation. Avoid contact with skin and eyes. Take action to prevent static discharges. Keep away from heat and sources of ignition. Do not swallow.

7.2. Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**

Keep container tightly closed and dry. Storage rooms must be properly ventilated.

Storage classes

Storage class according to TRGS 510
Storage category (Switzerland)

13
11/13

Non- combustible solids
Other solid hazardous substances with
classification/labelling hazardous

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Exposure limit values**

cyclohexane

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List	SUVA			
Type	MAK			
Value	700	mg/m ³	200	ppm(V)
Short term exposure limit	2800	mg/m ³	800	ppm(V)
Remarks: B; ZNS; NIOSH				

acrylic acid

List	SUVA			
Type	MAK			
Value	29	mg/m ³	10	ppm(V)
Short term exposure limit	59	mg/m ³	20	ppm(V)
Pregnancy group: S Remarks: S SSc; OAW Haut Auge; OSHA				

Derived No/Minimal Effect Levels (DNEL/DMEL)**cyclohexane**

Type of value	Derived No Effect Level (DNEL)			
Reference group	Worker			
Duration of exposure	Long term			
Route of exposure	inhalative			
Mode of action	Local effects			
Concentration	700			mg/m ³

Type of value	Derived No Effect Level (DNEL)			
Reference group	Worker			
Duration of exposure	Short term			
Route of exposure	inhalative			
Mode of action	Systemic effects			
Concentration	1400			mg/m ³

Type of value	Derived No Effect Level (DNEL)			
Reference group	General Population			
Duration of exposure	Short term			
Route of exposure	inhalative			
Mode of action	Local effects			
Concentration	412			mg/m ³

Type of value	Derived No Effect Level (DNEL)			
Reference group	General Population			
Duration of exposure	Short term			
Route of exposure	inhalative			
Mode of action	Systemic effects			
Concentration	412			mg/m ³

Type of value	Derived No Effect Level (DNEL)			
Reference group	General Population			
Duration of exposure	Long term			
Route of exposure	inhalative			
Mode of action	Local effects			
Concentration	206			mg/m ³

Type of value	Derived No Effect Level (DNEL)			
Reference group	General Population			
Duration of exposure	Long term			
Route of exposure	oral			
Mode of action	Systemic effects			
Concentration	59.4			mg/kg

Type of value	Derived No Effect Level (DNEL)			
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Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	700	mg/m ³

Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	206	mg/m ³

Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	1186	mg/kg

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	2016	mg/kg

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Short term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	1400	mg/m ³

acrylic acid

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Short term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	30	mg/m ³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	30	mg/m ³

Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Short term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	3.6	mg/m ³

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Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	3.6	mg/m ³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	30	mg/m ³

Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Short term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	3.6	mg/m ³

Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	3.6	mg/m ³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Short term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	30	mg/m ³

Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Short term	
Route of exposure	oral	
Mode of action	Systemic effects	
Concentration	1.2	mg/kg

Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Long term	
Route of exposure	oral	
Mode of action	Systemic effects	
Concentration	0.4	mg/kg

Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Short term	
Route of exposure	dermal	
Mode of action	Local effects	
Concentration	1	mg/cm ²

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Predicted No Effect Concentration (PNEC)**cyclohexane**

Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Species	Fresh water	
Concentration	3.24	mg/l
Type of value	PNEC	
Type	Sediment	
Species	Fresh water	
Concentration	16.68	mg/kg
Type of value	PNEC	
Type	Marine sediment	
Concentration	16.68	mg/kg
Type of value	PNEC	
Type	Aquatic	
Species	Fresh water	
Concentration	0.207	mg/l
Type of value	PNEC	
Type	Aquatic	
Species	Seawater	
Concentration	0.207	mg/l
Type of value	PNEC	
Type	Soil	
Concentration	3.38	mg/kg

acrylic acid

Type of value	PNEC	
Type	Aquatic	
Species	Fresh water	
Concentration	0.003	mg/l
Type of value	PNEC	
Type	Sediment	
Species	Seawater	
Concentration	0.002	mg/kg
Type of value	PNEC	
Type	Soil	
Concentration	1	mg/kg
Type of value	PNEC	
Type	Sediment	
Species	Fresh water	
Concentration	0.024	mg/kg
Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	0.9	mg/l
Type of value	PNEC	
Type	Aquatic	

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Species	Seawater	
Concentration	0	mg/l
Type of value	PNEC	
Species	Predator	
Route of exposure	oral	
Concentration	0.03	g/kg

8.2. Exposure controls

Exposure controls

Avoid inhalation of dusts. Provide adequate ventilation.

General protective and hygiene measures

General industrial hygiene practice. Do not breathe dust. Keep away from sources of ignition. Personal protective equipment must comply with the Regulation (EC) No 2016/425 and the resulting CEN standards. Wash thoroughly after work. Remove contaminated, soaked clothing immediately and dispose of safely.

Respiratory protection

Breathing apparatus in the event of aerosol, mist or fume formation. Provide good ventilation of working area (local exhaust ventilation if necessary). The respiratory protection must comply with the relevant CEN standards.

Hand protection

The glove material must be sufficient impermeable and resistant to the substance. Check the tightness before wear. Gloves should be well cleaned before being removed, then stored in a well ventilated location.

Material thickness $\geq$ 0.35 mm

Breakthrough time $\geq$ 240 min

Hand protection must comply with EN 374.

Eye protection

Safety glasses; Eye protection must comply with EN 166.

Body protection

Clothing as usual in the chemical industry.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	solid
Colour	white
Odour	acidic
Physical state	Powder
Odour	acid-like

Boiling point or initial boiling point and boiling range

Remarks not determined

Flash point

Remarks Not applicable

pH value

Value 2.5 to 3
Concentration/H₂O 1 %

Vapour pressure

Remarks not determined

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Density and/or relative density

Value	1.4	g/ml
Temperature	20	°C
Remarks	Relative Density according specification	

9.2. Other information**Solubility in water**

Remarks	soluble
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Auto-ignition temperature

Value	968	°C
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SECTION 10: Stability and reactivity**10.1. Reactivity**

No dangerous reactions known.

10.2. Chemical stability

Stable under recommended storage and handling conditions (see section 7).

10.3. Possibility of hazardous reactions

No hazardous reactions known.

10.4. Conditions to avoid

Protect from atmospheric moisture and water. Heat

10.5. Incompatible materials

Bases, Alkalis

10.6. Hazardous decomposition products

Carbon monoxide and carbon dioxide

SECTION 11: Toxicological information**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008****Acute oral toxicity**

Remarks	Based on available data, the classification criteria are not met.
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Acute oral toxicity (Components)**cyclohexane**

Species	rat	
LD50	12700	mg/kg
Source	GESTIS-Stoffdatenbank	
Source	Toxicology and Applied Pharmacology. Vol. 19, Pg. 699, 1971.	

acrylic acid

Species	rat	
LD50	1500	mg/kg
Source	GESTIS-Stoffdatenbank	

Acute dermal toxicity

Remarks	Based on available data, the classification criteria are not met.
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Acute dermal toxicity (Components)**acrylic acid**

Species	rabbit	
LD50	294	mg/kg
Source	GESTIS-Stoffdatenbank	

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Source Toxicology and Applied Pharmacology. Vol. 28, Pg. 313, 1974.

Acute inhalational toxicity

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

Acute inhalative toxicity (Components)**acrylic acid**

Species	rat	
LC50	> 5.1	mg/l
Duration of exposure	4	h
Administration/Form	Vapors	
Source	GESTIS-Stoffdatenbank	
Source	BASF	

Skin corrosion/irritation

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

Skin corrosion/irritation (Components)**acrylic acid**

Species	Human
Remarks	No data available.
Source	GESTIS-Stoffdatenbank

Serious eye damage/irritation

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

Sensitization

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

Sensitization (Components)**cyclohexane**

Remarks No sensitisation effect known.

acrylic acid

Species	guinea pig
Remarks	No sensitisation effect known.
Source	Literature value

Subacute, subchronic, chronic toxicity (Components)**acrylic acid**

Remarks	Based on available data, the classification criteria are not met.
Source	GESTIS-Stoffdatenbank

Mutagenicity

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

Mutagenicity (Components)**cyclohexane**

Remarks No information available.

acrylic acid

Remarks	Based on available data, the classification criteria are not met.
Source	GESTIS-Stoffdatenbank

Reproductive toxicity

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

Reproduction toxicity (Components)**cyclohexane**

Remarks No data available.

acrylic acid

Remarks No indications of toxic effects were observed in reproduction studies in

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Source animals.
GESTIS-Stoffdatenbank

Carcinogenicity

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

Carcinogenicity (Components)**cyclohexane**

evaluation No negative effects

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

acrylic acid

Remarks negative on animals

Source IUCLID

Specific Target Organ Toxicity (STOT)**Single exposure**

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

Repeated exposure

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

Specific Target Organ Toxicity (STOT) (Components)**cyclohexane**

Remarks No data available

Aspiration hazard

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

Aspiration hazard (Components)**cyclohexane**

Harmful: may cause lung damage if swallowed.

11.2. Information on other hazards**Endocrine disrupting properties with respect to humans**

The product does not contain a substance that has endocrine disrupting properties with respect to humans.

SECTION 12: Ecological information**12.1. Toxicity****Fish toxicity (Components)****cyclohexane**

Species	Fathead minnow (<i>Pimephales promelas</i>)		
LC50	4.5		mg/l
Duration of exposure	4	d	

acrylic acid

Species	rainbow trout (<i>Oncorhynchus mykiss</i>)		
	27		mg/l
Duration of exposure	4	d	

Daphnia toxicity (Components)**cyclohexane**

Species	Daphnia magna		
EC50	0.9		mg/l
Duration of exposure	2	d	

acrylic acid

Species	Daphnia magna		
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EC50 95 mg/l
Duration of exposure 2 d

Algae toxicity (Components)**cyclohexane**

Species Chlorobionta
EC50 9.317 mg/l
Duration of exposure 3 d

acrylic acid

Species Chlorobionta
EC50 0.13 mg/l
Duration of exposure 3 d

Bacteria toxicity (Components)**cyclohexane**

Remarks No data available.

12.5. Results of PBT and vPvB assessment**Results of PBT and vPvB assessment**

The product contains no PBT substances
The product contains no vPvB substances.

12.6 Endocrine disrupting properties**Endocrine disrupting properties with respect to the environment**

The product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms.

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Disposal recommendations for the product**

Disposal in compliance with local and national regulations.

Disposal recommendations for packaging

Dispose of as unused product.

SECTION 14: Transport information

	Land transport ADR/RID	Marine transport IMDG/GGVSee	Air transport ICAO/IATA
14.1. UN number or ID number	The product does not constitute a hazardous substance in land transport.	The product does not constitute a hazardous substance in sea transport.	The product does not constitute a hazardous substance in air transport.
14.5. Environmental hazards	-		

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****Water Hazard Class (Germany)**

Water Hazard Class WGK 1
(Germany)

Remarks Derivation of WGK according to Annex 1 No. 5.2 AwSV

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Other information

The product does not contain substances according to Candidate List for inclusion in Annex XIV of Regulation (EC) No. 1907/2006 (REACH) with a content of $\geq 0.1\%$ w/w.

SECTION 16: Other information**Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:**

Classification (Regulation (EC) No. 1272/2008)

Aquatic Chronic 3

H412

Calculation method

Hazard statements listed in Chapter 2/3

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

CLP categories listed in Chapter 2/3

Acute Tox. 4	Acute toxicity, Category 4
Aquatic Acute 1	Hazardous to the aquatic environment, acute, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment, chronic, Category 1
Aquatic Chronic 3	Hazardous to the aquatic environment, chronic, Category 3
Asp. Tox. 1	Aspiration hazard, Category 1
Flam. Liq. 2	Flammable liquid, Category 2
Flam. Liq. 3	Flammable liquid, Category 3
Skin Corr. 1A	Skin corrosion, Category 1A
Skin Irrit. 2	Skin irritation, Category 2
STOT SE 3	Specific target organ toxicity - single exposure, Category 3

Supplemental information

Relevant changes compared with the previous version of the safety data sheet are marked with: ***
This information is based on our present state of knowledge. However, it should not constitute a guarantee for any specific product properties and shall not establish a legally valid relationship.