Safety Data Sheet

According to Regulation (EC) No 1907/2006

GP 14 / Hardener

Date of issue/Date of revision: 06.06.2025 en / EU - Version 2.0

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

1.1 Product identifier GP 14

UFI: WXH4-RCGH-0V1N-0U7R

1.2 Relevant identified uses of the substance or mixture and uses advised against
Use of the substance/preparation: Model building material / Hardener

1.3 Company/undertaking identification

Company name:	Gößl + Pfaff GmbH
Street:	Münchener Str. 13
Place:	85123 Karlskron/Brautlach
Telephone:	+49 (0) 8450 / 932-0
Fax.:	+49 (0) 8450 / 932-13
Contact person:	Management: Mr. Gößl, Mr. Pfaff
E-Mail:	info@goessl-pfaff.de
Internet:	www.goessl-pfaff.de
Responsible Department:	Management

1.4 Emergency telephone number
Emergency CONTACT (24-Hour-Number): +49 (0) 6132-84463 GBK GmbH Global Regulatory Compliance, Ingelheim

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
Regulation (EC) No. 1272/2008
Skin Corr. 1B; H314
Eye Dam. 1; H318
Skin Sens. 1; H317
STOT RE 2; H373
Aquatic Chronic 3; H412

Full text of hazard statements: see SECTION 16.

2.2. Label elements
Regulation (EC) No. 1272/2008
Hazardous components for labelling
Fatty acids, C18-unsatd., dimers, polymers with tall-oil fatty acids and triethylenetetramine;
2-piperazin-1-ylethylamine;
Triethylenetetramine

Signal word: Danger

Pictograms:

Hazard statements

H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash hands thoroughly after handling.
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/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.
P310	Immediately call a POISON CENTER/doctor.

2.3. Other hazards
No information available

SECTION 3: Composition/information on ingredients

3.2. Mixtures
Chemical characterization
Amine hardener

Relevant ingredients

CAS-No.	Chemical name			Quantity
	EC No	**Index-No**	**REACH-No**	
	Classification according to Regulation (EC) No. 1272/2008			
68082-29-1	**Fatty acids, C18-unsatd., dimers, polymers with tall-oil fatty acids and triethylenetetramine**			**15 – < 20 %**
	500-191-5		01-2119972320-44	
	Skin Irrit. 2, Eye Dam. 1, Skin Sens. 1, Aquatic Chronic 2; H315 H318 H317 H411			
140-31-8	**2-piperazin-1-ylethylamine**			**1 – < 5 %**
	205-411-0	612-105-00-4	01-2119471486-30	
	Repr. 2, Acute Tox. 3, Acute Tox. 4, Skin Corr. 1B, Eye Dam. 1, Skin Sens. 1, STOT RE 1, Aquatic Chronic 3; H361fd H311 H302 H314 H318 H317 H372 H412			
90640-67-8	**Triethylenetetramine**			**1 – < 5 %**
	292-588-2		01-2119457919-13	
	Acute Tox. 4, Acute Tox. 4, Skin Corr. 1B, Skin Sens. 1, Aquatic Chronic 3; H312 H302 H314 H317 H412			

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
68082-29-1	500-191-5	Fatty acids, C18-unsatd., dimers, polymers with tall-oil fatty acids and triethylenetetramine	15 - < 20 %
	dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 2000 mg/kg		
140-31-8	205-411-0	2-piperazin-1-ylethylamine	1 - < 5 %
	dermal: LD50 = 866 mg/kg; oral: LD50 = 2140 mg/kg		
90640-67-8	292-588-2	Triethylenetetramine	1 - < 5 %
	dermal: LD50 = 1465 mg/kg; oral: LD50 = 1716 mg/kg		

Further information
none

SECTION 4: First aid measures

4.1. Description of first aid measures
General information
Remove contaminated soaked clothing immediately.
Remove affected person from the danger area and lay down.

After inhalation
Move to fresh air in case of accidental inhalation of vapours or decomposition products.
In case of respiratory tract irritation, consult a physician.

After contact with skin
Wash with plenty of water/soap.
If skin irritation or rash occurs: Get medical advice/attention.

After contact with eyes
In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

After ingestion
Rinse mouth immediately and drink plenty of water.
Never give anything by mouth to an unconscious person or a person with cramps.
Call a physician immediately.
Do NOT induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed
There are no data available on the mixture itself.

4.3. Indication of any immediate medical attention and special treatment needed
There are no data available on the mixture itself.

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media
Co-ordinate fire-fighting measures to the fire surroundings.
Foam, Carbon dioxide (CO2), Dry extinguishing powder, Water spray jet

Unsuitable extinguishing media
Full water jet

5.2. Special hazards arising from the substance or mixture
In case of fire may be liberated:
Nitrogen oxides (NOx), Carbon monoxide, Carbon dioxide (CO2)

5.3. Advice for firefighters
Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information
Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
For non-emergency personnel
In case of vapour formation use respirator.
Provide adequate ventilation.
Keep away from sources of ignition - No smoking.

For emergency responders
Protective equipment

6.2. Environmental precautions
Clean contaminated surface thoroughly.
Do not allow to enter into surface water or drains.
Local authorities should be advised if significant spillages cannot be contained.

6.3. Methods and material for containment and cleaning up
For containment
Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

For cleaning up
Take up mechanically, placing in appropriate containers for disposal.

6.4. Reference to other sections
Wear personal protection equipment (refer to section 8).

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Advice on safe handling
Keep container tightly closed.
Provide adequate ventilation.
Avoid contact with skin, eyes and clothes.

Advice on protection against fire and explosion
No special fire protection measures are necessary.

Advice on general occupational hygiene
Do not breathe vapour.
Wash hands before breaks and after work.
Do not eat, drink or smoke when using this product.
Avoid contact with skin, eyes and clothes.
Remove and wash contaminated clothes before re-use.

7.2. Conditions for safe storage, including any incompatibilities
Requirements for storage rooms and vessels
Keep/Store only in original container.
Keep container tightly closed in a cool, well-ventilated place.
Protect against direct sunlight.

Further information on storage conditions
Keep away from food, drink and animal feedingstuffs.

7.3. Specific end use(s)
There are no data available on the mixture itself.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
Exposure limits (EH40)

CAS No	Substance	ppm	mg/m3	fib/ml	Category	Origin
7727-43-7	Barium sulphate, inhalable dust	-	5		TWA (8 h)	

DNEL/DMEL values

CAS No	Substance		
DNEL type	Exposure route	Effect	Value
68082-29-1	Fatty acids, C18-unsatd., dimers, polymers with tall-oil fatty acids and triethylenetetramine		
Worker DNEL, long-term	dermal	systemic	1,1 mg/kg bw/day
Worker DNEL, acute	inhalation	systemic	0,97 mg/m3

140-31-8	2-piperazin-1-ylethylamine			
Worker DNEL, acute		dermal	local	0,04 mg/cm2
Worker DNEL, long-term		dermal	local	0,006 mg/cm2
Worker DNEL, acute		dermal	systemic	20 mg/kg bw/day
Worker DNEL, long-term		dermal	systemic	3,3 mg/kg bw/day
Worker DNEL, acute		inhalation	systemic	10 6 mg/m³
Worker DNEL, long-term		inhalation	systemic	10,6 mg/m³
Worker DNEL, acute		inhalation	local	80 mg/m³
Worker DNEL, long-term		inhalation	local	0,015 mg/m³
90640-67-8	Triethylenetetramine			
Worker DNEL, long-term		dermal	systemic	0,57 mg/kg bw/day
Worker DNEL, long-term		inhalation	systemic	1 mg/m³

PNEC values

CAS No	**Substance**
Environmental compartment	Value
68082-29-1	Fatty acids, C18-unsatd., dimers, polymers with tall-oil fatty acids and triethylenetetramine
Freshwater	0,00434 mg/l
Freshwater (intermittent releases)	0,0434 mg/l
Marine water	0,00043 mg/l
Freshwater sediment	434,02 mg/kg
Marine sediment	43,4 mg/kg
Micro-organisms in sewage treatment plants (STP)	3,84 mg/l
Soil	88,78 mg/kg
140-31-8	2-piperazin-1-ylethylamine
Freshwater	0,058 mg/l
Marine water	0,0058 mg/l
Freshwater sediment	215 mg/kg
Marine sediment	21,51 mg/kg
Micro-organisms in sewage treatment plants (STP)	250 mg/l
Soil	1 mg/kg

8.2. Exposure controls

Appropriate engineering controls
Provide adequate ventilation as well as local exhaustion at critical locations.

Individual protection measures, such as personal protective equipment

Eye/face protection
Tightly fitting goggles

Hand protection
Protective gloves resistant to chemicals made off nitrile, Minimum coat thickness 0.4 mm,
Permeation resistance (wear duration) approx. 480 minutes, butyl rubber (Butyl) - = 0.7 mm thickness
This recommendation refers exclusively to the chemical compatibility and the lab test conforming to EN 374 carried out under lab conditions.
Requirements can vary as a function of the use.
Therefore it is necessary to adhere additionally to the recommendations given by the manufacturer of protective gloves.

Skin protection
Wear suitable protective clothing.
Safety shoes.

Respiratory protection
In case of insufficient ventilation, wear suitable respiratory equipment.
If product is sprayed, use fresh-air breathing apparatus or (only short-term use) a combination filter A2-P2.

Environmental exposure controls
There are no data available on the mixture itself.

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Paste
Colour:	grey
Odour:	not determined

		Test method
Melting point/freezing point:	not determined	
Boiling point or initial boiling point and boiling range:	not determined	
Flammability:	not applicable	
Lower explosion limits:	not determined	
Upper explosion limits:	not determined	
Flash point:	> 100 °C	
Auto-ignition temperature:	not determined	
Decomposition temperature:	not determined	
pH-Value:	not determined	
Viscosity / kinematic:	not determined	
Water solubility (at 20 °C):	Immiscible	
Solubility in other solvents:	not determined	
Dissolution rate:	not determined	
Partition coefficient n-octanol/water:	not determined	
Dispersion stability:	not determined	
Vapour pressure:	not determined	
Density (at 20 °C):	1,6 g/cm³	DIN EN/ ISO 2811-1
Relative vapour density:	not determined	
Particle characteristics:	not applicable	

9.2 Other information

Information with regard to physical hazard classes
Explosive properties
Product does not present an explosion hazard.

Other safety characteristics

Viscosity / dynamic: (at 20 °C)	160.000 mPa·s	DIN 53019-1

Further Information
There are no data available on the mixture itself.

SECTION 10: Stability and reactivity

10.1. Reactivity
The product is stable under storage at normal ambient temperatures.

10.2. Chemical stability
The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions
Exothermic reaction with: Acids

10.4. Conditions to avoid
To avoid thermal decomposition, do not overheat.
Protect against direct sunlight.

10.5. Incompatible materials
Oxidising agent, strong, Acids, Alkali (lye)

10.6. Hazardous decomposition products
Ammonia , Nitrogen oxides (NOx), Carbon monoxide, Carbon dioxide

Further information
The product is stable under storage at normal ambient temperatures.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008
Acute toxicity
Based on available data, the classification criteria are not met.

ATEmix calculated
ATE (oral) > 5000 mg/kg; ATE (dermal) > 5000 mg/kg; ATE (inhalation vapour) > 20 mg/l;
ATE (inhalation dust/mist) > 5 mg/l

CAS No	Chemical name				
	Exposure route	**Dose**	**Species**	**Source**	**Method**
68082-29-1	Fatty acids, C18-unsatd., dimers, polymers with tall-oil fatty acids and triethylenetetramine				
	oral	LD50 >2.000 mg/kg	Rat		
	dermal	LD50 >2.000 mg/kg	Rat		
140-31-8	2-piperazin-1-ylethylamine				
	oral	LD50 2140 mg/kg	Rat	SDB	
	dermal	LD50 866 mg/kg	Rabbit	SDB	
90640-67-8	Triethylenetetramine				
	oral	LD50 1.716 mg/kg	Rat		
	dermal	LD50 1.465 mg/kg	Rabbit		

Irritation and corrosivity
Skin corrosion/irritation: Causes severe skin burns and eye damage.
Serious eye damage/eye irritation: Causes serious eye damage.

Sensitising effects
May cause an allergic skin reaction. (Fatty acids, C18-unsatd., dimers, polymers with tall-oil fatty acids and triethylenetetramine; 2-piperazin-1-ylethylamine; Triethylenetetramine)

Carcinogenic/mutagenic/toxic effects for reproduction
Germ cell mutagenicity: Based on available data, the classification criteria are not met.
Carcinogenicity: Based on available data, the classification criteria are not met.
Reproductive toxicity: Based on available data, the classification criteria are not met.

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

STOT-repeated exposure
May cause damage to organs through prolonged or repeated exposure. (2-piperazin-1-ylethylamine)

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

Specific effects in experiment on an animal
There are no data available on the mixture itself.

Additional information on tests
There are no data available on the mixture itself.

Practical experience
Observations relevant to classification
There are no data available on the mixture itself.

11.2. Information on other hazards
Endocrine disrupting properties
There are no data available on the mixture itself.

Other information
There are no data available on the mixture itself.

SECTION 12: Ecological information

12.1. Toxicity
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] | [d]	Species	Source	Method
68082-29-1	Fatty acids, C18-unsatd., dimers, polymers with tall-oil fatty acids and triethylenetetramine					
	Acute fish toxicity	LC50 7,07 mg/l	96 h	Oncorhynchus mykiss (Rainbow trout)		
	Acute crustacea toxicity	EC50 7,07 mg/l	48 h	Daphnia magna (Big water flea)		
140-31-8	2-piperazin-1-ylethylamine					
	Acute fish toxicity	LC50 190 mg/l	96 h	Pimephales promelas (fathead minnow)	SDB	
	Acute algae toxicity	ErC50 >1000mg/l	72 h	Selenastrum capricornutum	SDB	
	Acute crustacea toxicity	EC50 58 mg/l	48 h	Daphnia magna (Big water flea)	SDB	
90640-67-8	Triethylenetetramine					
	Acute fish toxicity	LC50 330 mg/l	96 h	Pimephales promelas (fathead minnow)		
	Acute crustacea toxicity	EC50 31,1 mg/l	48 h	Daphnia magna (Big water flea)		

12.2. Persistence and degradability
There are no data available on the mixture itself.

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
68082-29-1	Fatty acids, C18-unsatd., dimers, polymers with tall-oil fatty acids and triethylenetetramine			
	OECD 301 D	4 %	28	
	Poorly biodegradable.			
140-31-8	2-piperazin-1-ylethylamine			
	OECD 301F	0 %	28	
	Poorly biodegradable.			

12.3. Bioaccumulative potential
There are no data available on the mixture itself.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
68082-29-1	Fatty acids, C18-unsatd., dimers, polymers with tall-oil fatty acids and triethylenetetramine	10,34
140-31-8	2-piperazin-1-ylethylamine	-1,48

12.4. Mobility in soil
There are no data available on the mixture itself.

12.5. Results of PBT and vPvB assessment
The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII.

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12.6. Endocrine disrupting properties
This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects
There are no data available on the mixture itself.

Further information
Do not allow to enter into surface water or drains.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Disposal recommendations
Where possible recycling is preferred to disposal.
Can be incinerated, when in compliance with local regulations.
It is not possible to give this product a waste code number according to the European waste catalogue because only the intended use of the user consents the assignment of a specific code number.
The waste code number must be agreed with the disposer / manufacturer / competent authority.

Contaminated packaging
Contaminated packagings are to be treated like the product itself.
Contaminated packages must be completely emptied and can be re-used following proper cleaning.
Packing which cannot be properly cleaned must be disposed of.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:	UN 2735
14.2. UN proper shipping name:	AMINES, LIQUID, CORROSIVE, N.O.S. (Fatty acids, C18-unsatd., dimers, polymers with tall-oil fatty acids and triethylenetetramine)
14.3. Transport hazard class(es):	8
14.4. Packing group:	II
Hazard label:	8 
Classification code:	C7
Special Provisions:	274
Limited quantity:	1 L
Excepted quantity:	E2
Transport category:	2
Hazard no:	80
Tunnel restriction code:	E

Marine transport (IMDG)

14.1. UN number or ID number:	UN 2735
14.2. UN proper shipping name:	AMINES, LIQUID, CORROSIVE, N.O.S (Fatty acids, C18-unsatd., dimers, polymers with tall-oil fatty acids and triethylenetetramine)
14.3. Transport hazard class(es):	8
14.4. Packing group:	II
Hazard label:	8 

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Marine pollutant:	yes
Special Provisions:	274
Limited quantity:	1 L
Excepted quantity:	E2
EmS:	F-A, S-B

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	UN 2735
14.2. UN proper shipping name:	AMINES, LIQUID, CORROSIVE, N.O.S. (Fatty acids, C18-unsatd., dimers, polymers with tall-oil fatty acids and triethylenetetramine)
14.3. Transport hazard class(es):	8
14.4. Packing group:	II
Hazard label:	8 
Special Provisions:	A3 A803
Limited quantity Passenger:	0.5 L
Passenger LQ:	Y840
Excepted quantity:	E2
IATA-packing instructions - Passenger:	851
IATA-max. quantity - Passenger:	1 L
IATA-packing instructions - Cargo:	855
IATA-max. quantity - Cargo:	30 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user
There are no data available on the mixture itself.

14.7. Maritime transport in bulk according to IMO instruments
There are no data available on the mixture itself.

Other applicable information
There are no data available on the mixture itself.

SECTION 15: Regulatory information

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

EU regulatory information
Restrictions on use (REACH, annex XVII):
Entry 3, Entry 75

Additional information
This product does not contain substances of very high concern > 0,1% (Regulation (EC) No 1907/2006 (REACH), Article 57).

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

National regulatory information
Water contaminating class (D): 2 - obviously hazardous to water

15.2. Chemical safety assessment
For the following substances of this mixture a chemical safety assessment has been carried out:

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SECTION 16: Other information

This version replaces version 1.2 from 27.06.2019

Abbreviations and acronyms
Acute Tox: Acute toxicity
Skin Corr: Skin corrosion
Skin Irrit: Skin irritation
Eye Dam: Eye damage
Skin Sens: Skin sensitisation
Repr: Reproductive toxicity
STOT RE: Specific target organ toxicity - repeated exposure
Aquatic Chronic: Chronic aquatic hazard
UFI: Unique Formula Identifier
DNEL: Derived No-Effect Level
PBT:persistent and bioaccumulative and toxic
vPvB:Very persistent and very bioaccumulative

Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]

Classification	Classification procedure
Skin Corr. 1B; H314	Calculation method
Eye Dam. 1; H318	Calculation method
Skin Sens. 1; H317	Calculation method
STOT RE 2; H373	Calculation method
Aquatic Chronic 3; H412	Calculation method

Relevant H- and EUH-phrases (Number and full text)
H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
H372 Causes damage to organs (respiratory tracts) through prolonged or repeated exposure (inhalation, skin contact).
H373 May cause damage to organs through prolonged or repeated exposure.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

Further Information
Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]

Data of items 4 to 8, as well as 10 to 12, do partly not refer to the use and the regular employing of the product (in this sense consult information on use and on product), but to liberation of major amounts in case of accidents and irregularities.

Key literature references and sources for data Regulation (EC) No 1907/2006; Regulation (EC) No. 1272/2008.

The information of this MSDS is based on the present state of our knowledge and meets the requirements of EU and national laws. The user's working conditions however, are beyond our knowledge and control. The product is not to be used for purposes other than those specified under Section 1 without a written permission. It remains the responsibility of the user to ensure that the necessary steps are taken to meet the laws and regulations. Handling of the product may only be done by people above 18 years of age, who are satisfactorily informed of how to do the work, the hazardous properties and necessary safety precautions. The information given in this MSDS is to describe the product only in terms of health and safety requirements and should not, therefore, be construed as guaranteeing specific properties.