



Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 14.06.2018

Revision: 14.06.2018

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

1.1 Product identifier

Trade name: Giroform Die Link Verdünner

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

No further relevant information available.

Application of the substance / the preparation: Auxiliary for dental technology

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Firmenbezeichnung
Amann Girrbach AG
Herrschaftswiesen 1
A-6842 Koblach
Telefon: 0043 5523 623330
Fax: 0043 5523 55990
Email: austria@amanngirrbach.com
Internet: www.amanngirrbach.com

Inverkehrbringer
Amann Girrbach GmbH
Duerrenweg 40
D-75177 Pforzheim
Telefon: 0049 7231 957100
Fax: 0049 7231 957129
Email: germany@amanngirrbach.com
Internet: www.amanngirrbach.com

Further information obtainable from: Amann Girrbach GmbH

1.4 Emergency telephone number:

Giftinformationszentrum-Nord / GIZ-Nord Poisons Centre
Telefon / Phone +49 (0) 551/19240
24h / 7d

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.



GHS07

Eye Irrit. 2 H319 Causes serious eye irritation.

STOT SE 3 H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

2.2 Label elements:

Labelling according to Regulation (EC) No 1272/2008:

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

(Contd. on page 2)



Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 14.06.2018

Revision: 14.06.2018

Trade name: Giroform Die Link Verdünner

(Contd. of page 1)

Hazard pictograms:

GHS02 GHS07

Signal word: Danger**Hazard-determining components of labelling:**

butanone

pentan-3-one

Hazard statements:

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

Precautionary statements:

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

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 [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.

P405 Store locked up.

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

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 of substances listed below with nonhazardous additions.**Dangerous components:**

CAS: 78-93-3	butanone	50-100%
EINECS: 201-159-0	Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336	
CAS: 96-22-0	pentan-3-one	25-50%
EINECS: 202-490-3	Flam. Liq. 2, H225; STOT SE 3, H335-H336	
CAS: 123-86-4	n-butyl acetate	2.5-<10%
EINECS: 204-658-1	Flam. Liq. 3, H226; STOT SE 3, H336	

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:**

Take affected persons out into the fresh air.

Do not leave affected persons unattended.

(Contd. on page 3)



Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 14.06.2018

Revision: 14.06.2018

Trade name: Giroform Die Link Verdünner

(Contd. of page 2)

After inhalation: Supply fresh air; consult doctor in case of complaints.**After skin contact:** Immediately wash with water and soap and rinse thoroughly.**After eye contact:**

Rinse opened eye for several minutes under running water.

Call a doctor immediately.

After swallowing: Call a doctor immediately.**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:**CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.**For safety reasons unsuitable extinguishing agents:** Water with full jet**5.2 Special hazards arising from the substance or mixture:**

Formation of toxic gases is possible during heating or in case of fire.

5.3 Advice for firefighters:**Protective equipment:**

Mouth respiratory protective device.

Do not inhale explosion gases or combustion gases.

Additional information:

Collect contaminated fire fighting water separately. It must not enter the sewage system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation.

Keep away from ignition sources.

Use respiratory protective device against the effects of fumes/dust/aerosol.

6.2 Environmental precautions: Do not allow product to reach sewage system or any water course.**6.3 Methods and material for containment and cleaning up:**

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

Ensure adequate ventilation.

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 disposal information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling:

Open and handle receptacle with care.

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

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

Information about fire - and explosion protection:

Keep ignition sources away - Do not smoke.

Fumes can combine with air to form an explosive mixture.

Highly volatile, flammable constituents are released during processing.

(Contd. on page 4)



Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 14.06.2018

Revision: 14.06.2018

Trade name: Giroform Die Link Verdünner

(Contd. of page 3)

7.2 Conditions for safe storage, including any incompatibilities:**Storage:****Requirements to be met by storerooms and receptacles:**

Store in a cool location.

Store only in the original receptacle.

Information about storage in one common storage facility:

Store away from foodstuffs.

Store away from oxidising agents.

Further information about storage conditions:

Keep container tightly sealed.

Store in a cool place.

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

SECTION 8: Exposure controls/personal protection

Additional information about design of technical facilities: No further data; see item 7.**8.1 Control parameters:****Ingredients with limit values that require monitoring at the workplace:**

78-93-3 butanoneWEL Short-term value: 899 mg/m³, 300 ppmLong-term value: 600 mg/m³, 200 ppm

Sk, BMGV

96-22-0 pentan-3-oneWEL Short-term value: 895 mg/m³, 250 ppmLong-term value: 716 mg/m³, 200 ppm**123-86-4 n-butyl acetate**WEL Short-term value: 966 mg/m³, 200 ppmLong-term value: 724 mg/m³, 150 ppm**Ingredients with biological limit values:**

78-93-3 butanone

BMGV 70 µmol/L

Medium: urine

Sampling time: post shift

Parameter: butan-2-one

8.2 Exposure controls:**Personal protective equipment:****General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.

Wash hands before breaks and at the end of work.

Keep away from foodstuffs, beverages and feed.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

Respiratory protection: Not necessary if room is well-ventilated.**Protection of hands:**

Check the permeability prior to each renewed use of the glove.

Protective gloves

Material of gloves:

Rubber 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.

(Contd. on page 5)



Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 14.06.2018

Revision: 14.06.2018

Trade name: Giroform Die Link Verdünner

(Contd. of page 4)

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.

As protection from splashes gloves made of the following materials are suitable:

Nitrile rubber, NBR

Butyl rubber, BR

Eye protection: Tightly sealed goggles**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties:****General Information:****Appearance:**

Form:	Fluid
Colour:	Colourless
Odour:	Characteristic
Odour threshold:	Not determined.
pH-value:	Not applicable.

Change in condition:

Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	79 °C

Flash point: -4 °C**Flammability (solid, gas):** Not applicable.**Ignition temperature:** 445 °C**Decomposition temperature:** Not determined.**Auto-ignition temperature:** Product is not selfigniting.**Explosive properties:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.**Explosion limits:**

Lower:	1.2 Vol %
Upper:	11.5 Vol %

Vapour pressure at 20 °C: 105 hPa**Density at 20 °C:** 0.81 g/cm³**Relative density:** Not determined.**Vapour density:** Not determined.**Evaporation rate:** Not applicable.**Solubility in / Miscibility with water:**

Not miscible or difficult to mix.

Partition coefficient: n-octanol/water: Not determined.**Viscosity:****Dynamic:** Not determined.**Kinematic:** Not determined.**9.2 Other information:** No further relevant information available.**SECTION 10: Stability and reactivity****10.1 Reactivity:** No further relevant information available.

(Contd. on page 6)



Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 14.06.2018

Revision: 14.06.2018

Trade name: Giroform Die Link Verdünner

(Contd. of page 5)

10.2 Chemical stability:**Thermal decomposition / conditions to be avoided:**

No decomposition if used according to specifications.

10.3 Possibility of hazardous reactions:

Develops readily flammable gases/fumes.

Used empty containers may contain product gases which form explosive mixtures with air.

Forms explosive gas mixture with air.

10.4 Conditions to avoid: No further relevant information available.**10.5 Incompatible materials:** No further relevant information available.**10.6 Hazardous decomposition products:** Carbon monoxide and carbon dioxide

SECTION 11: Toxicological information

11.1 Information on toxicological effects:**Acute toxicity** Based on available data, the classification criteria are not met.**LD/LC50 values relevant for classification:****78-93-3 butanone**

Oral LD50 3,300 mg/kg (rat)

Dermal LD50 5,000 mg/kg (rabbit)

Primary irritant effect:**Skin corrosion/irritation** Based on available data, the classification criteria are not met.**Serious eye damage/irritation**

Causes serious eye irritation.

Respiratory or skin sensitisation Based on available data, the classification criteria are not met.**CMR effects (carcinogenicity, mutagenicity and toxicity 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**

May cause respiratory irritation. May cause drowsiness or dizziness.

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:** No further relevant information available.**12.2 Persistence and degradability:** No further relevant information available.**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 1 (German Regulation) (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

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

(Contd. on page 7)



Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 14.06.2018

Revision: 14.06.2018

Trade name: Giroform Die Link Verdünner

(Contd. of page 6)

SECTION 13: Disposal considerations

13.1 Waste treatment methods:

European waste catalogue:

Dispose of contents/container in accordance with local/regional/national/international regulations.

Uncleaned packaging:

Recommendation: Disposal must be made according to official regulations.

SECTION 14: Transport information

14.1 UN-Number:

ADR, IMDG, IATA

UN1993

14.2 UN proper shipping name:

ADR

1993 FLAMMABLE LIQUID, N.O.S. (ETHYL METHYL KETONE (METHYL ETHYL KETONE), DIETHYL KETONE)

IMDG, IATA

FLAMMABLE LIQUID, N.O.S. (ETHYL METHYL KETONE (METHYL ETHYL KETONE), DIETHYL KETONE)

14.3 Transport hazard class(es):

ADR, IMDG, IATA



Class:

3 Flammable liquids.

Label:

3

14.4 Packing group:

ADR, IMDG, IATA

II

14.5 Environmental hazards:

Marine pollutant:

No

14.6 Special precautions for user:

Warning: Flammable liquids.

Danger code (Kemler):

33

EMS Number:

F-E, S-E

Stowage Category

B

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable.

Transport/Additional information:

ADR

Limited quantities (LQ):

1L

Transport category:

2

Tunnel restriction code:

D/E

UN "Model Regulation":

UN 1993 FLAMMABLE LIQUID, N.O.S. (ETHYL METHYL KETONE (METHYL ETHYL KETONE), DIETHYL KETONE), 3, II

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.

(Contd. on page 8)



Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 14.06.2018

Revision: 14.06.2018

Trade name: Giroform Die Link Verdünner

(Contd. of page 7)

Seveso category P5c FLAMMABLE LIQUIDS**Qualifying quantity (tonnes) for the application of lower-tier requirements** 5.000 t**Qualifying quantity (tonnes) for the application of upper-tier requirements** 50.000 t**REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3**15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this 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.

H226 Flammable liquid and vapour.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H336 May cause drowsiness or dizziness.

Training hints:

Employees who use the product have to be trained on risks for health, hygiene, use of individual protection, accident preventive actions, rescue actions, etc.,

Department issuing SDS:

ADEEGO GmbH

Wildsteig 4A

D-42113 Wuppertal

Tel. +49 (0) 202 2575700

Fax. +49 (0) 202 2575701

Email: mail@adeego.de

www.adeego.de

Contact: Dr. Axel Deeg**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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Flammable liquids – Category 2

Flam. Liq. 3: Flammable liquids – Category 3

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

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3