Safety Data Sheet
acc. to OSHA HCS

Printing date 07/17/2026 Reviewed on 07/17/2026

1 Identification

· **Product identifier**

· **Trade name:** GRF UNI-100 TI 5L*1 L001
· **Application of the substance / the mixture** Adhesive

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Bison International
Dr.A.F.Philipsstraat 9
NL-4462 EW Goes
PO Box 160
NL-4460 AD Goes
tel. +31 88 3235700
fax. +31 88 3235800
e mail: sds@boltonadhesives.com

· **Information department:** PSRA
· **Emergency telephone number:**
Bison and Griffon products: +31 88 3235700. Operating hours mo-fr 08:00h-17:00h (CET)
UHU products: + 49 (0) 30/19240 (Notruf). Operating hours mo-fr 08:00h-17:00h (CET)

For detailed information contact the national Poison Centre @
https://poisoncentres.echa.europa.eu/appointed-bodies

2 Hazard(s) identification

· **Classification of the substance or mixture**

Flammable Liquids 2	H225 Highly flammable liquid and vapor.
Skin Irritation 2	H315 Causes skin irritation.
Eye Damage 1	H318 Causes serious eye damage.
Carcinogenicity 2	H351 Suspected of causing cancer.
Specific Target Organ Toxicity - Single Exposure 3	H335 May cause respiratory irritation.

· **Label elements**
· **Hazard pictograms**



GHS02 GHS05 GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**
Tetrahydrofuran
Cyclohexanone
· **Hazard statements**
H225 Highly flammable liquid and vapor.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H351 Suspected of causing cancer.
H335 May cause respiratory irritation.

(Contd. on page 2)

Safety Data Sheet
acc. to OSHA HCS

Printing date 07/17/2026 Reviewed on 07/17/2026

Trade name: GRF UNI-100 TI 5L*1 L001

(Contd. of page 1)

· **Precautionary statements**

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P261	Avoid breathing vapours.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
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+P233	Store in a well-ventilated place. Keep container tightly closed.
P501	Dispose of contents/container in accordance with national regulations.

· **Classification system:**
· **NFPA ratings (scale 0 - 4)**



Health = 3
Fire = 3
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = *3
Fire = 3
Reactivity = 0

· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable
· **vPvB:** Not applicable

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**
· **Description:** Adhesive

· **Dangerous components:**

109-99-9	Tetrahydrofuran	50-100%
108-94-1	Cyclohexanone	10-25%
78-93-3	Butanone	≥2.5-<10%
128-37-0	Butylated hydroxytoluene	<1%

4 First-aid measures

· **Description of first aid measures**
· **General information:** No special measures required.
· **After inhalation:**
Call a doctor immediately.
In case of unconsciousness place patient stably in side position for transportation.
· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
· **After eye contact:**
Rinse opened eye for several minutes under running water. Then consult a doctor.
· **After swallowing:** Rinse out mouth and then drink plenty of water.

(Contd. on page 3)

Safety Data Sheet
acc. to OSHA HCS

Printing date 07/17/2026 Reviewed on 07/17/2026

Trade name: GRF UNI-100 TI 5L*1 L001

(Contd. of page 2)

· **Information for doctor:**
· **Most important symptoms and effects, both acute and delayed**
No further relevant information available.
· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:**
Water haze
Alcohol resistant foam
Fire-extinguishing powder
Carbon dioxide
· **For safety reasons unsuitable extinguishing agents:** Water with full jet
· **Special hazards arising from the substance or mixture**
No further relevant information available.
· **Advice for firefighters**
· **Protective equipment:** No special measures required.
· **Additional information**
Cool endangered receptacles with water spray.
Collect contaminated fire fighting water separately. It must not enter the sewage system.

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6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
· **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
· **Methods and material for containment and cleaning up:**
Send for recovery or disposal in suitable receptacles.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralizing agent.
Dispose contaminated material as waste according to section 13.
Ensure adequate ventilation.
· **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.
· **Protective Action Criteria for Chemicals**

· **PAC-1:**		
109-99-9	Tetrahydrofuran	100 ppm
9002-86-2	polyvinyl chloride	2.4 mg/m3
108-94-1	Cyclohexanone	50 ppm
78-93-3	Butanone	200 ppm
112945-52-5	fumed silica	18 mg/m3
67-63-0	propan-2-ol	400 ppm

(Contd. on page 4)

Safety Data Sheet
acc. to OSHA HCS

Printing date 07/17/2026 Reviewed on 07/17/2026

Trade name: GRF UNI-100 TI 5L*1 L001

(Contd. of page 3)

9003-39-8	Polyvinylpyrrolidon	51 mg/m3
616-45-5	2-pyrrolidone	15 ppm

· **PAC-2:**

109-99-9	Tetrahydrofuran	500 ppm
9002-86-2	polyvinyl chloride	26 mg/m3
108-94-1	Cyclohexanone	120 ppm
78-93-3	Butanone	2700 ppm
112945-52-5	fumed silica	100 mg/m3
67-63-0	propan-2-ol	2000 ppm
9003-39-8	Polyvinylpyrrolidon	560 mg/m3
616-45-5	2-pyrrolidone	170 ppm

· **PAC-3:**

109-99-9	Tetrahydrofuran	5000 ppm
9002-86-2	polyvinyl chloride	160 mg/m3
108-94-1	Cyclohexanone	700 ppm
78-93-3	Butanone	4000 ppm
112945-52-5	fumed silica	630 mg/m3
67-63-0	propan-2-ol	12000 ppm
9003-39-8	Polyvinylpyrrolidon	20000 mg/m3
616-45-5	2-pyrrolidone	990 ppm

7 Handling and storage

· **Handling:**
· **Precautions for safe handling**
Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
· **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** Store in a cool location.
· **Information about storage in one common storage facility:** Not required
· **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
· **Storage class:** 3
· **Specific end use(s)** No further relevant information available.

US

(Contd. on page 5)

Safety Data Sheet
acc. to OSHA HCS

Printing date 07/17/2026 Reviewed on 07/17/2026

Trade name: GRF UNI-100 TI 5L*1 L001

(Contd. of page 4)

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8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see section 7.

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**	
109-99-9 Tetrahydrofuran	
PEL	Long-term value: 590 mg/m³, 200 ppm
REL	Short-term value: 735 mg/m³, 250 ppm Long-term value: 590 mg/m³, 200 ppm
TLV	Short-term value: 295 mg/m³, 100 ppm Long-term value: 147 mg/m³, 50 ppm Skin, A3, BEI
108-94-1 Cyclohexanone	
PEL	Long-term value: 200 mg/m³, 50 ppm
REL	Long-term value: 100 mg/m³, 25 ppm Skin
TLV	Short-term value: 200 mg/m³, 50 ppm Long-term value: 80 mg/m³, 20 ppm Skin, BEI, A3
78-93-3 Butanone	
PEL	Long-term value: 590 mg/m³, 200 ppm
REL	Short-term value: 885 mg/m³, 300 ppm Long-term value: 590 mg/m³, 200 ppm
TLV	Short-term value: 150 ppm Long-term value: 75 ppm BEI, Skin
128-37-0 Butylated hydroxytoluene	
REL	Long-term value: 10 mg/m³
TLV	Long-term value: 2* mg/m³ *as inhalable fraction and vapor, A4

· **Ingredients with biological limit values:**	
108-94-1 Cyclohexanone	
BEI	80 mg/L Medium: urine Time: end of shift at end of workweek Parameter: 1.2-Cyclohexanediol (with hydrolysis, nonspecific, nonquantitative) 8 mg/L Medium: urine Time: end of shift Parameter: Cyclohexanol (with hydrolysis, nonspecific, nonquantitative)

(Contd. on page 6)

Safety Data Sheet
acc. to OSHA HCS

Printing date 07/17/2026 Reviewed on 07/17/2026

Trade name: GRF UNI-100 TI 5L*1 L001

(Contd. of page 5)

78-93-3 Butanone	
BEI	2 mg/L Medium: urine Time: end of shift Parameter: Methyl ethyl ketone (nonspecific)

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Do not inhale gases / fumes / aerosols.
Avoid contact with the skin.
Avoid contact with the eyes and skin.
· **Breathing equipment:**
Suitable respiratory protective device recommended.
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
Use suitable respiratory protective device in case of insufficient ventilation.
· **Recommended filter device for short term use:** Filter A
· **Protection of hands:**
Solvent resistant gloves


Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· **Material of gloves**
Recommended thickness of the material: > 0,12 mm
Butyl rubber, BR
Nitrile rubber, NBR
Recommended thickness of the material: > 0,7 mm
· **Penetration time of glove material**
For the mixture of chemicals mentioned below the penetration time has to be at least 10 minutes (Permeation according to EN 374 Part 3: Level 1).
For the mixture of chemicals mentioned below the penetration time has to be at least 120 minutes (Permeation according to EN 374 Part 3: Level 4).
· **Eye protection:**


Tightly sealed goggles

Goggles recommended during refilling.

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA HCS

Printing date 07/17/2026 Reviewed on 07/17/2026

Trade name: GRF UNI-100 TI 5L*1 L001

(Contd. of page 6)

· **Body protection:**
Use protective suit.
Solvent resistant protective clothing

9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Fluid
Color:	According to product specification
· **Odor:**	Characteristic
· **Odor threshold:**	Not determined
· **pH-value:**	Not determined
· **Change in condition**	
Melting point/Melting range:	Undetermined
Boiling point/Boiling range:	65.5 °C (149.9 °F)
· **Flash point:**	-21 °C (-5.8 °F)
· **Flammability:**	Highly flammable.
· **Auto igniting:**	230 °C (446 °F)
· **Decomposition temperature:**	Not determined
· **Ignition temperature:**	Product is not selfigniting.
· **Danger of explosion:**	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· **Explosion limits:**	
Lower:	1.3 Vol %
Upper:	12 Vol %
· **Vapor pressure at 20 °C (68 °F):**	200 hPa (150 mm Hg)
· **Vapor pressure at 50 °C (122 °F):**	550 hPa (412.5 mm Hg)
· **Density at 20 °C (68 °F):**	1.023 g/cm³ (8.537 lbs/gal)
· **Relative density**	Not determined
· **Vapor density**	Not determined
· **Evaporation rate**	Not determined
· **Solubility in / Miscibility with**	
Water:	Not miscible or difficult to mix.
· **Partition coefficient (n-octanol/water):**	Not determined
· **Viscosity:**	
Dynamic at 20 °C (68 °F):	1450 mPas
Kinematic:	Not determined

(Contd. on page 8)

Safety Data Sheet
acc. to OSHA HCS

Printing date 07/17/2026 Reviewed on 07/17/2026

Trade name: GRF UNI-100 TI 5L*1 L001

(Contd. of page 7)

· **Solvent content:**	
Organic solvents:	78.8 %
VOC content:	78.78 % 765.7 g/l / 6.39 lb/gal
Solids content:	21.0 %
· **Other information**	All relevant physical data were determined for the mixture. All non-determined data are not measurable or not relevant for the characterization of the mixture.

10 Stability and reactivity

· **Reactivity** No further relevant information available.
· **Chemical stability**
· **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
· **Possibility of hazardous reactions** Corrosive action on metals.
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:** Danger of toxic pyrolysis products.

11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**		
109-99-9 Tetrahydrofuran		
Oral	LD50	500 mg/kg (rat)
Dermal	LD50	>2000 mg/kg (rat)
Inhalative	LC50/4 h	>5000 mg/l (rat)
108-94-1 Cyclohexanone		
Oral	LD50	1620 mg/kg (rat)
Dermal	LD50	1100 mg/kg (rabbit)
78-93-3 Butanone		
Oral	LD50	>2193 mg/kg (rat)
Dermal	LD50	>8050 mg/kg (rat)
128-37-0 Butylated hydroxytoluene		
Oral	LD50	>2930 mg/kg (rat)
Dermal	LD50	>2000 mg/kg (rat)

· **Primary irritant effect:**
· **on the skin:** Irritant to skin and mucous membranes.
· **on the eye:** Strong irritant with the danger of severe eye injury.
· **Sensitization:** No sensitizing effects known.

(Contd. on page 9)

Safety Data Sheet
acc. to OSHA HCS

Printing date 07/17/2026 Reviewed on 07/17/2026

Trade name: GRF UNI-100 TI 5L*1 L001

(Contd. of page 8)

· **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**		
109-99-9	Tetrahydrofuran	2B
9002-86-2	polyvinyl chloride	3
108-94-1	Cyclohexanone	3
128-37-0	Butylated hydroxytoluene	3
67-63-0	propan-2-ol	3
9003-39-8	Polyvinylpyrrolidon	3

· **NTP (National Toxicology Program)**
None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**
None of the ingredients is listed.

· **Germ cell mutagenicity** Not applicable

12 Ecological information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.
· **Behavior in environmental systems:**
· **Bioaccumulative potential** No further relevant information available.
· **Mobility in soil** No further relevant information available.
· **Additional ecological information:**
· **General notes:**
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Must not reach bodies of water or drainage ditch undiluted or unneutralized.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable
· **vPvB:** Not applicable
· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Disposal must be made according to official regulations.

(Contd. on page 10)

Safety Data Sheet
acc. to OSHA HCS

Printing date 07/17/2026 Reviewed on 07/17/2026

Trade name: GRF UNI-100 TI 5L*1 L001

(Contd. of page 9)

· **Uncleaned packagings:**
· **Recommendation:**
Packagings that cannot be cleansed are to be disposed of in the same manner as the product.

14 Transport information

· **UN-Number**	
· **DOT, ADR/ADN, IMDG, IATA**	UN1133
· **UN proper shipping name**	
· **DOT**	Adhesives
· **ADR/ADN**	1133 ADHESIVES
· **IMDG, IATA**	ADHESIVES
· **Transport hazard class(es)**	
· **DOT**	
	
· **Class**	3 Flammable liquids
· **Label**	3
· **ADR/ADN**	
	
· **Class**	3 (F1) Flammable liquids
· **Label**	3
· **IMDG, IATA**	
	
· **Class**	3 Flammable liquids
· **Label**	3
· **Packing group**	
· **DOT, ADR/ADN, IMDG, IATA**	III
· **Environmental hazards:**	
· **Marine pollutant:**	No
· **Special precautions for user**	Warning: Flammable liquids
· **Hazard identification number (Kemler code):**	-
· **EMS Number:**	F-E,S-D

(Contd. on page 11)

Safety Data Sheet
acc. to OSHA HCS

Printing date 07/17/2026 Reviewed on 07/17/2026

Trade name: GRF UNI-100 TI 5L*1 L001

(Contd. of page 10)

· **Stowage Category**	A
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable
· **Transport/Additional information:**	
· **DOT**	
· **Quantity limitations**	On passenger aircraft/rail: 60 L On cargo aircraft only: 220 L
· **ADR/ADN**	
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **IMDG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **Remarks:**	For substances with class 3 according to IMDG-Code chapter 2.3.2.2 packing group is classified in packing group III, as viscosity is in accordance with requirements (flow time t > 100s).
· **UN "Model Regulation":**	UN 1133 ADHESIVES, 3, III

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **Sara**

· **Section 355 (extremely hazardous substances):**
None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

67-63-0	propan-2-ol

· **TSCA (Toxic Substances Control Act):**
All components have the value ACTIVE.

· **Hazardous Air Pollutants**
None of the ingredients is listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

109-99-9	Tetrahydrofuran

(Contd. on page 12)

Safety Data Sheet
acc. to OSHA HCS

Printing date 07/17/2026 Reviewed on 07/17/2026

Trade name: GRF UNI-100 TI 5L*1 L001

(Contd. of page 11)

· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**
None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

109-99-9	Tetrahydrofuran	SC
78-93-3	Butanone	I

· **TLV (Threshold Limit Value)**

109-99-9	Tetrahydrofuran	A3
9002-86-2	polyvinyl chloride	A4
108-94-1	Cyclohexanone	A3
128-37-0	Butylated hydroxytoluene	A4
67-63-0	propan-2-ol	A4

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
None of the ingredients is listed.

· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS02 GHS05 GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**
Tetrahydrofuran
Cyclohexanone

· **Hazard statements**
H225 Highly flammable liquid and vapor.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H351 Suspected of causing cancer.
H335 May cause respiratory irritation.

· **Precautionary statements**

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P261	Avoid breathing vapours.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
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+P233	Store in a well-ventilated place. Keep container tightly closed.
P501	Dispose of contents/container in accordance with national regulations.

(Contd. on page 13)

Safety Data Sheet
acc. to OSHA HCS

Printing date 07/17/2026 Reviewed on 07/17/2026

Trade name: GRF UNI-100 TI 5L*1 L001

(Contd. of page 12)

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

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.

· **Department issuing SDS:** PSRA
· **Contact:** PSRA
· **Date of preparation / last revision** 07/17/2026 / 11
· **Abbreviations and acronyms:**
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
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)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
BEI: Biological Exposure Limit
Flammable Liquids 2: Flammable liquids – Category 2
Skin Irritation 2: Skin corrosion/irritation – Category 2
Eye Damage 1: Serious eye damage/eye irritation – Category 1
Carcinogenicity 2: Carcinogenicity – Category 2
Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) – Category 3
· *** Data compared to the previous version altered.**

US