Safety Data Sheet
acc. to OSHA HCS

Printing date 07/13/2026 Reviewed on 07/13/2026

1 Identification

· **Product identifier**

· **Trade name:** GRF PU TIX FIBER CQ 340G*12 L221
· **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**

Acute Toxicity - Inhalation 4	H332 Harmful if inhaled.
Skin Irritation 2	H315 Causes skin irritation.
Eye Irritation 2A	H319 Causes serious eye irritation.
Sensitization - Respiratory 1	H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Sensitization - Skin 1	H317 May cause an allergic skin reaction.
Carcinogenicity 2	H351 Suspected of causing cancer.
Specific Target Organ Toxicity - Single Exposure 3	H335 May cause respiratory irritation.
Specific Target Organ Toxicity - Repeated Exposure 2	H373 May cause damage to organs through prolonged or repeated exposure.

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



GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**
Isocyanic acid, polymethylenepolyphenylene ester, polymer with methyloxirane polymer with oxirane ether with 1,2,3-propanetriol

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4,4'-methylenediphenyl diisocyanate
Isocyanic acid, polymethylenepolyphenylene ester
Isocyanic acid, polymethylenepolyphenylene ester, polymer with 1,2-ethanediamine, methyloxirane and oxirane

· **Hazard statements**
H332 Harmful if inhaled.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.
H335 May cause respiratory irritation.
H373 May cause damage to organs through prolonged or repeated exposure.

· **Precautionary statements**
P260 Do not breathe vapours.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P342+P311 If experiencing respiratory symptoms: Call a poison center/doctor.
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 = 2
Fire = 1
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = *2
Fire = 1
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:**		
58228-05-0	Isocyanic acid, polymethylenepolyphenylene ester, polymer with methyloxirane polymer with oxirane ether with 1,2,3-propanetriol	50-100%
101-68-8	4,4'-methylenediphenyl diisocyanate	10-25%
9016-87-9	Isocyanic acid, polymethylenepolyphenylene ester	10-25%
3470-98-2	1-butylpyrrolidin-2-one	≥2.5-<10%

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312597-92-5	Isocyanic acid, polymethylenepolyphenylene ester, polymer with 1,2-ethanediamine, methyloxirane and oxirane	≥0.1-<1%

4 First-aid measures

· **Description of first aid measures**
· **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
· **After inhalation:**
Supply fresh air and to be sure call for a doctor.
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. If symptoms persist, consult a doctor.
· **After swallowing:** If symptoms persist consult doctor.
· **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:** Use fire fighting measures that suit the environment.
· **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
· **Advice for firefighters**
· **Protective equipment:** Mouth respiratory protective device.

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6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Mount respiratory protective device.
· **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).
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.

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· **Protective Action Criteria for Chemicals**

· **PAC-1:**		
101-68-8	4,4'-methylenediphenyl diisocyanate	0.15 mg/m3
9016-87-9	Isocyanic acid, polymethylenepolyphenylene ester	0.15 mg/m3
· **PAC-2:**		
101-68-8	4,4'-methylenediphenyl diisocyanate	5.0 mg/m3
9016-87-9	Isocyanic acid, polymethylenepolyphenylene ester	3.6 mg/m3
· **PAC-3:**		
101-68-8	4,4'-methylenediphenyl diisocyanate	55 mg/m3
9016-87-9	Isocyanic acid, polymethylenepolyphenylene ester	22 mg/m3

7 Handling and storage

· **Handling:**
· **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
· **Information about protection against explosions and fires:**
Keep respiratory protective device available.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** No special requirements.
· **Information about storage in one common storage facility:** Not required
· **Further information about storage conditions:** Keep receptacle tightly sealed.
· **Storage class:** 10
· **Specific end use(s)** No further relevant information available.

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:**
The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.
At this time, the other constituents have no known exposure limits.

101-68-8 4,4'-methylenediphenyl diisocyanate	
PEL	Ceiling limit value: 0.2 mg/m³, 0.02 ppm
REL	Long-term value: 0.05 mg/m³, 0.005 ppm Ceiling limit value: 0.2* mg/m³, 0.02* ppm *10-min
TLV	Long-term value: 0.051 mg/m³, 0.005 ppm

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

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· **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.
Store protective clothing separately.
Do not inhale gases / fumes / aerosols.
Avoid contact with the eyes and skin.
· **Breathing equipment:** Not required
· **Protection of hands:**



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
Nitrile rubber, NBR
· **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).
· **Eye protection:**



Tightly sealed goggles

Goggles recommended during refilling.
· **Body protection:** Use protective suit.

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

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Boiling point/Boiling range:	190 °C (374 °F)
· **Flash point:**	>110 °C (>230 °F)
· **Flammability:**	Not applicable
· **Auto igniting:**	400 °C (752 °F)
· **Decomposition temperature:**	Not determined
· **Ignition temperature:**	Product is not selfigniting.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Explosion limits:**	
Lower:	Not determined
Upper:	Not determined
· **Vapor pressure at 20 °C (68 °F):**	0 hPa
· **Density at 20 °C (68 °F):**	1.113 g/cm³ (9.288 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:	Not determined
Kinematic:	Not determined
· **Solvent content:**	
VOC content:	0.00 %
Solids content:	29.3 %
· **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**
Reacts with alcohols.
Reacts with water.
Reacts with alkali, amines and strong acids.
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:** No further relevant information available.

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· **Hazardous decomposition products:** Danger of toxic pyrolysis products.

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11 Toxicological information

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

· **LD/LC50 values that are relevant for classification:**		
58228-05-0 Isocyanic acid, polymethylenepolyphenylene ester, polymer with methyloxirane polymer with oxirane ether with 1,2,3-propanetriol		
Oral	LD50	>10000 mg/kg (rat)
Dermal	LD50	>9400 mg/kg (rabbit)
101-68-8 4,4'-methylenediphenyl diisocyanate		
Oral	LD50	>2000 mg/kg (rat)
Dermal	LD50	>9400 mg/kg (rabbit)
9016-87-9 Isocyanic acid, polymethylenepolyphenylene ester		
Oral	LD50	7500 mg/kg (rat)
Dermal	LD50	>9400 mg/kg (rabbit)
Inhalative	LC50/4 h	0.493 mg/l (rat)
3470-98-2 1-butylpyrrolidin-2-one		
Oral	LD50	>300 mg/kg (rat)
Dermal	LD50	>2000 mg/kg (rat)

· **Primary irritant effect:**
· **on the skin:** Irritant to skin and mucous membranes.
· **on the eye:** Irritating effect.
· **Sensitization:**
Sensitization possible through inhalation.
Sensitization possible through skin contact.
· **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Harmful
Irritant

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**		
101-68-8	4,4'-methylenediphenyl diisocyanate	3
9016-87-9	Isocyanic acid, polymethylenepolyphenylene ester	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

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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.
· **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.

· **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**	not regulated
· **ADR/ADN, IMDG, IATA**	not regulated
	-
· **UN proper shipping name**	
· **DOT, ADR/ADN, IMDG, IATA**	not regulated
· **Transport hazard class(es)**	
· **DOT, ADR/ADN, ADN, IMDG, IATA**	
· **Class**	not regulated
· **Packing group**	
· **DOT, ADR/ADN, IMDG, IATA**	not regulated
· **Environmental hazards:**	
· **Marine pollutant:**	No

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· **Special precautions for user**	Not applicable
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable
· **Transport/Additional information:**	Not dangerous according to the above specifications.
· **UN "Model Regulation":**	not regulated

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):**

101-68-8	4,4'-methylenediphenyl diisocyanate
9016-87-9	Isocyanic acid, polymethylenepolyphenylene ester

· **TSCA (Toxic Substances Control Act):**

58228-05-0	Isocyanic acid, polymethylenepolyphenylene ester, polymer with methyloxirane polymer with oxirane ether with 1,2,3-propanetriol	ACTIVE
101-68-8	4,4'-methylenediphenyl diisocyanate	ACTIVE
9016-87-9	Isocyanic acid, polymethylenepolyphenylene ester	ACTIVE
3470-98-2	1-butylpyrrolidin-2-one	ACTIVE
6425-39-4	2,2'-dimorpholinyldiethyl ether	ACTIVE
68479-98-1	diethylmethylbenzenediamine	ACTIVE

· **Hazardous Air Pollutants**

101-68-8	4,4'-methylenediphenyl diisocyanate

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **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)**

101-68-8	4,4'-methylenediphenyl diisocyanate	D, CBD

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9016-87-9	Isocyanic acid, polymethylenepolyphenylene ester	CBD

· **TLV (Threshold Limit Value)**

None of the ingredients is listed.

· **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**



GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**
Isocyanic acid, polymethylenepolyphenylene ester, polymer with methyloxirane polymer with oxirane ether with 1,2,3-propanetriol
4,4'-methylenediphenyl diisocyanate
Isocyanic acid, polymethylenepolyphenylene ester
Isocyanic acid, polymethylenepolyphenylene ester, polymer with 1,2-ethanediamine, methyloxirane and oxirane
· **Hazard statements**
H332 Harmful if inhaled.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.
H335 May cause respiratory irritation.
H373 May cause damage to organs through prolonged or repeated exposure.
· **Precautionary statements**
P260 Do not breathe vapours.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P342+P311 If experiencing respiratory symptoms: Call a poison center/doctor.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P501 Dispose of contents/container in accordance with national regulations.
· **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** 07/13/2026 / 33

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· **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
Acute Toxicity - Inhalation 4: Acute toxicity – Category 4
Skin Irritation 2: Skin corrosion/irritation – Category 2
Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A
Sensitization - Respiratory 1: Respiratory sensitisation – Category 1
Sensitization - Skin 1: Skin sensitisation – Category 1
Carcinogenicity 2: Carcinogenicity – Category 2
Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) – Category 3
Specific Target Organ Toxicity - Repeated Exposure 2: Specific target organ toxicity (repeated exposure) – Category 2

· *** Data compared to the previous version altered.**

US