

Safety data sheet according to UK REACH

Printing date 17.07.2026

Version number 22 (replaces version 21)

Revision: 31.07.2025

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

- **1.1 Product identifier**
- **Trade name:** GRF T-88 BO 100ML*24 ENDE
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** Adhesive
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Bison International B.V.
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
- **Further information obtainable from:** PSRA
- **1.4 Emergency telephone number:**
Members of the public seeking specific information on poisons should contact:
In England and Wales: NHS 111 - dial 111
In Scotland: NHS 24 - dial 111

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**
Flam. Liq. 2 H225 Highly flammable liquid and vapour.
Eye Irrit. 2 H319 Causes serious eye irritation.
STOT SE 3 H336 May cause drowsiness or dizziness.
- **2.2 Label elements**
- **Classification needs to be in accordance with the NZ Hazardous Substances (Hazard Classification) Notice 2020**
The product is classified and labelled according to the GB CLP regulation.
- **Hazard pictograms**
 
GHS02 GHS07
- **Signal word** Danger
- **Hazard-determining components of labelling:**
Butanone
- **Hazard statements**
H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

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· Precautionary statements

- P101 If medical advice is needed, have product container or label at hand.
- P102 Keep out of reach of children.
- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P261 Avoid breathing vapours.
- P403+P233 Store in a well-ventilated place. Keep container tightly closed.
- P501 Dispose of contents/container in accordance with national regulations.

· Additional information:

EUH066 Repeated exposure may cause skin dryness or cracking.

· 2.3 Other hazards

· Results of PBT and vPvB assessment

- **PBT:** Not applicable
- **vPvB:** Not applicable

· Determination of endocrine-disrupting properties

78-93-3 Butanone

List II

SECTION 3: Composition/information on ingredients

· 3.2 Mixtures

· **Description:** Adhesive

· Dangerous components:

CAS: 78-93-3 EINECS: 201-159-0 Index number: 606-002-00-3 Reg.nr.: 01-2119457290-43-XXXX	Butanone ⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319; STOT SE 3, H336, EUH066	50-100%
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· **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:** No special measures required.

· After inhalation:

Supply fresh air; consult doctor in case of complaints.
No special measures required.

· **After skin contact:** Generally the product does not irritate the skin.

· 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.

· 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.

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SECTION 5: Firefighting measures

- **5.1 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
- **5.2 Special hazards arising from the substance or mixture**
 - No further relevant information available.
- **5.3 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.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
 - Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 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).
 - 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**
 - 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 fire - and explosion protection:**
 - Keep ignition sources away - Do not smoke.
 - Protect against electrostatic charges.
- **7.2 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 container tightly sealed.
 - Store in cool, dry conditions in well sealed receptacles.

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- **Storage class:** 3
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· 8.1 Control parameters

· Ingredients with limit values that require monitoring at the workplace:

78-93-3 Butanone

WEL	Short-term value: 899 mg/m ³ , 300 ppm Long-term value: 600 mg/m ³ , 200 ppm Sk, BMGV
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· DNELs

78-93-3 Butanone

Oral	Consumer, oral, longterm exposition	31 mg/kg bw/day
Dermal	Worker, dermal, longterm exposition	1161 mg/kg bw/day
	Consumer, dermal, longterm exposition	412 mg/kg bw/day
Inhalative	Worker, inhalative, shortterm exposition	900 mg/m ³
	Worker, inhalative, longterm exposition	600 mg/m ³
	Consumer DNEL, acute inhalation	450 mg/m ³
	Consumer, inhalative, longterm exposition	106 mg/m ³

· PNECs

78-93-3 Butanone

Oral	Secondary Poisoning	1000 mg/kg
	Fresh water	55.8 mg/l
	Fresh water sediment	284.7 mg/kg dry weight
	Marine water	55.8 mg/l
	Marine sediment	284.7 mg/kg dry weight
	Soil	22.5 mg/kg
	Sewage treatment plant	709 mg/l
	Sporadic release	55.8 mg/l

· Ingredients with biological limit values:

78-93-3 Butanone

BMGV	70 µmol/L Medium: urine Sampling time: post shift Parameter: butan-2-one
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- **Additional information:** The lists valid during the making were used as basis.

· 8.2 Exposure controls

- **Appropriate engineering controls** No further data; see section 7.
- **Individual protection measures, such as personal protective equipment**
- **General protective and hygienic measures:**
The usual precautionary measures are to be adhered to when handling chemicals.
Keep away from foodstuffs, beverages and feed.

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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 eyes.

Avoid contact with the eyes and skin.

- **Respiratory protection:**

Use suitable respiratory protective device in case of insufficient ventilation.

- **Recommended filter device for short term use:** Filter A

- **Hand protection**

Solvent resistant 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/face protection**



Tightly sealed goggles

Goggles recommended during refilling

- **Body protection:** Solvent resistant protective clothing

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**

- **General Information**

- **Physical state**

Liquid

- **Colour:**

Colourless

- **Odour:**

Like ketone

- **Odour threshold:**

Not determined

- **Melting point/freezing point:**

Undetermined

- **Boiling point or initial boiling point and boiling range**

79-80.5 °C

- **Flammability**

Highly flammable.

- **Lower and upper explosion limit**

- **Lower:**

1.8 Vol %

- **Upper:**

11.5 Vol %

- **Flash point:**

-9 °C

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· Auto-ignition temperature:	514 °C
· Decomposition temperature:	Not determined
· pH	Not determined
· Viscosity:	
· Kinematic viscosity	Not determined
· Dynamic at 20 °C:	375 mPas
· Solubility	
· water:	Not miscible or difficult to mix.
· Partition coefficient n-octanol/water (log value)	Not determined
· Vapour pressure at 20 °C:	105 hPa
· Density and/or relative density	
· Density at 20 °C:	0.883 g/cm ³
· Relative density	Not determined
· Vapour density	Not determined

· 9.2 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.
· Appearance:	
· Form:	Fluid
· Important information on protection of health and environment, and on safety.	
· Ignition temperature:	Product is not selfigniting.
· Explosive properties:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Solvent content:	
· Organic solvents:	80.4 %
· VOC (EC)	80.40 %
· Solids content:	19.6 %
· Change in condition	
· Evaporation rate	Not determined

· Information with regard to physical hazard classes	
· Explosives	Void
· Flammable gases	Void
· Aerosols	Void
· Oxidising gases	Void
· Gases under pressure	Void
· Flammable liquids	Highly flammable liquid and vapour.
· Flammable solids	Void
· Self-reactive substances and mixtures	Void
· Pyrophoric liquids	Void
· Pyrophoric solids	Void
· Self-heating substances and mixtures	Void
· Substances and mixtures, which emit flammable gases in contact with water	Void

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· Oxidising liquids	Void
· Oxidising solids	Void
· Organic peroxides	Void
· Corrosive to metals	Void
· Desensitised explosives	Void

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** Danger of forming toxic pyrolysis products.

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.
- **LD/LC50 values relevant for classification:**
- **78-93-3 Butanone**
- Oral LD50 >2193 mg/kg (rat)
- Dermal LD50 >8050 mg/kg (rat)
- **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.
- **Germ cell mutagenicity**
Not applicable
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 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.
- **Additional toxicological information:**
- **Acute effects (acute toxicity, irritation and corrosivity)** Not applicable
- **Sensitisation** Not applicable
- **Repeated dose toxicity** Not applicable
- **11.2 Information on other hazards**

· Endocrine disrupting properties

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128-37-0 Butylated hydroxytoluene

List II

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.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable
- **vPvB:** Not applicable
- **12.6 Endocrine disrupting properties**
For information on endocrine disrupting properties see section 11.
- **12.7 Other adverse effects**
- **Additional ecological information:**
- **General notes:**
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
Disposal must be made according to official regulations.
- **Uncleaned packaging:**
- **Recommendation:**
Packagings that may not be cleansed are to be disposed of in the same manner as the product.

SECTION 14: Transport information

- | | |
|---------------------------------------|--|
| · 14.1 UN number or ID number | |
| · ADR/ADN, IMDG, IATA | UN1133 |
| · 14.2 UN proper shipping name | |
| · ADR/ADN | 1133 ADHESIVES, special provision 640D |
| · IMDG, IATA | ADHESIVES |

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· 14.3 Transport hazard class(es)

· ADR/ADN



· **Class** 3 (F1) Flammable liquids.
· **Label** 3

· IMDG, IATA



· **Class** 3 Flammable liquids.
· **Label** 3

· 14.4 Packing group

· **ADR/ADN, IMDG, IATA** II

· 14.5 Environmental hazards:

· **Marine pollutant:** No

· 14.6 Special precautions for user

Warning: Flammable liquids.

· **Hazard identification number (Kemler code):** 33

· **EMS Number:** F-E,S-D

· **Stowage Category** B

· 14.7 Maritime transport in bulk according to IMO instruments

Not applicable

· Transport/Additional information:

· **Quantity limitations** On passenger aircraft/rail: 5 L
On cargo aircraft only: 60 L

· ADR/ADN

· **Limited quantities (LQ)** 5L

· **Excepted quantities (EQ)** Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml

· **Transport category** 2

· **Tunnel restriction code** D/E

· IMDG

· **Limited quantities (LQ)** 5L

· **Excepted quantities (EQ)** Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml

· Remarks:

For substances with class 3 according to IMDG-Code chapter 2.3.2.2 packing group is classified

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- | | |
|---------------------------------|--|
| · | in packing group III, as viscosity is in accordance with requirements (flow time $t > 100s$). |
| · UN "Model Regulation": | UN 1133 ADHESIVES, 3, II |

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Poisons Act**

· **Regulated explosives precursors**

None of the ingredients is listed.

· **Regulated poisons**

None of the ingredients is listed.

· **Reportable explosives precursors**

None of the ingredients is listed.

· **Reportable poisons**

None of the ingredients is listed.

· **Directive 2012/18/EU**

- **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· **Seveso category P5c FLAMMABLE LIQUIDS**

- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5000 t

- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50000 t

- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3

· **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**

None of the ingredients is listed.

· **REGULATION (EU) 2019/1148**

· **Regulation (EC) No 273/2004 on drug precursors**

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· **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**

78-93-3 Butanone

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.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

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EUH066 Repeated exposure may cause skin dryness or cracking.

Classification according to Regulation (EC) No 1272/2008

Flammable liquids

Bridging principles

Serious eye damage/irritation

Specific target organ toxicity (single exposure)

The classification of the mixture is generally based on the calculation method using substance data according to Regulation (EC) No 1272/2008.

· **Department issuing SDS:** PSRA· **Contact:** PSRA· **Date of previous version:** 01.08.2024· **Version number of previous version:** 21· **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

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)

VOC: Volatile Organic Compounds (USA, EU)

DNEL: Derived No-Effect Level (UK REACH)

PNEC: Predicted No-Effect Concentration (UK REACH)

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

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

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

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

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