Safety Data Sheet
according to HPR, Schedule 1

Date of issue 07/16/2026 Version number 37 Revision: 07/16/2026

1 Identification

· **Product identifier**

· **Trade name:** GRF ALU ZINC SPRAY AE 400ML*12 L221
· **Other means of identification**
· **Application of the substance / the mixture** Metal-working product

· **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 identification

· **Classification of the substance or mixture**

Aerosols, Section 2.3.1 – Category 1	H222 Extremely flammable aerosol.
	H229 Pressurized container: may burst if heated.
Skin Irritation - Category 2	H315 Causes skin irritation.
Eye damage/irritation – Category 2A	H319 Causes serious eye irritation.
Specific target organ toxicity (single exposure) – Category 3	H336 May cause drowsiness or dizziness.

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



GHS02 GHS07

· **Signal word** Danger

· **Hazard-determining components of labeling:**
Ethyl acetate
Acetone
Hydrocarbons, C9, aromatics
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics
· **Hazard statements**
H222 Extremely flammable aerosol.

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H229 Pressurized container: may burst if heated.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H336 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.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211 Do not spray on an open flame or other ignition source.
P251 Do not pierce or burn, even after use.
P261 Avoid breathing spray.
P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
P501 Dispose of contents/container in accordance with national regulations.

· **Information pertaining to particular dangers for man and environment:**
· **Classification system:**
· **NFPA ratings (scale 0 - 4)**



Health = 2
Fire = 4
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = 2
Fire = 4
Reactivity = 3

3 Composition/Information on ingredients

· **Chemical characterization: Mixtures**
· **Description:** Metal working product

· **Dangerous components:**

106-97-8	n-Butan	15-40% w/w *
74-98-6	propane	10-30% w/w *
141-78-6	Ethyl acetate	10-30% w/w *
67-64-1	Acetone	≥10-≤13% w/w *
1330-20-7	xylene	1-5% w/w *
7429-90-5	aluminium powder (stabilised)	1-5% w/w *
128601-23-0	Hydrocarbons, C9, aromatics	1-5% w/w *
64742-48-9	Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics	0.5-1.5% w/w *
75-28-5	isobutane	0.1-1% w/w *

* Actual concentration ranges are withheld as a trade secret.

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4 First-aid measures

· **Description of first aid measures**
· **General information:** No special measures required.
· **After inhalation:**
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.
· **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:**
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **Special hazards arising from the substance or mixture**
No further relevant information available.
· **Advice for firefighters**
· **Protective equipment:** No special measures required.

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:** 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.

7 Handling and storage

· **Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.
· **Information about protection against explosions and fires:**
Do not spray on a naked flame or any incandescent material.
Keep ignition sources away - Do not smoke.
Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C, i.e. electric lights. Do not pierce or burn, even after use.

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· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:**
Observe official regulations on storing packagings with pressurized containers.
· **Information about storage in one common storage facility:** Not required
· **Further information about storage conditions:** Keep receptacle tightly sealed.
· **Storage class:** 2 B
· **Specific end use(s)** No further relevant information available.

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8 Exposure controls/ Personal protection

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**	
106-97-8 n-Butan	
EL	STEL: 1000 ppm EX
EV	TWA: 800 ppm revoked as of 01/01/18
74-98-6 propane	
EL	Simple asphyxiant; EX
EV	TWA: 1,000 ppm revoked as of 01/01/18
141-78-6 Ethyl acetate	
EL	TWA: 150 ppm
EV	TWA: 1,440 mg/m³, 400 ppm
67-64-1 Acetone	
EL	STEL: 500 ppm TWA: 250 ppm
EV	STEL: 750 ppm TWA: 500 ppm
1330-20-7 xylene	
EL	TWA: 20 ppm
EV	STEL: 650 mg/m³, 150 ppm TWA: 435 mg/m³, 100 ppm
75-28-5 isobutane	
EL	STEL: 1000 ppm EX
EV	TWA: 800 ppm revoked as of 01/01/18

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

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

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· **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 eyes and skin.
· **Breathing equipment:**
Use suitable respiratory protective device in case of insufficient ventilation.
· **Recommended filter device for short term use:** Filter AX
· **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:**
Safety glasses



Tightly sealed goggles

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9 Physical and chemical properties

· **Information on basic physical and chemical properties**
· **General Information**

· **Physical state**	Aerosol
· **Color:**	According to product specification
· **Odor:**	Characteristic
· **Odor threshold:**	Not determined
· **Melting point/Melting range:**	Undetermined
· **Boiling point/Boiling range:**	-44.5 °C
· **Flammability:**	Not applicable
· **Explosion limits:**	
· **Lower:**	1.5 Vol %
· **Upper:**	14.3 Vol %

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· **Flash point:**	-60 °C
· **Auto igniting:**	365 °C
· **Decomposition temperature:**	Not determined
· **pH-value:**	Mixture is a gas.
· **Viscosity:**	
· **Kinematic:**	Not determined
· **Dynamic:**	Not determined
· **Solubility in / Miscibility with**	
· **Water:**	Fully miscible.
· **Partition coefficient (n-octanol/water):**	Not determined
· **Vapor pressure at 20 °C:**	8300 hPa
· **Vapor pressure at 50 °C:**	800 hPa
· **Density at 20 °C:**	1.04 g/cm³
· **Relative density**	Not determined
· **Vapor density**	Not determined
· **Particle characteristics**	Not applicable
· **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:**	Aerosol
· **Important information on protection of health and environment, and on safety.**	
· **Ignition temperature:**	Product is not selfigniting.
· **Danger of explosion:**	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· **Solvent content:**	
· **Organic solvents:**	94.6 %
· **Solids content:**	4.5 %
· **Change in condition**	
· **Evaporation rate**	Not applicable.

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** No dangerous reactions known.
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:** No further relevant information available.
· **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:**		
141-78-6 Ethyl acetate		
Oral	LD50	4934 mg/kg (rabbit)
Dermal	LD50	>20000 mg/kg (rabbit)
Inhalative	LC50/4 h	29.3 mg/l (rat)
67-64-1 Acetone		
Oral	LD50	5800 mg/kg (rat)
Dermal	LD50	>15800 mg/kg (rat)
Inhalative	LC50/4 h	76 mg/l (rat)
1330-20-7 xylene		
Oral	LD50	4300 mg/kg (rat)
Dermal	LD50	2000 mg/kg (rabbit)
128601-23-0 Hydrocarbons, C9, aromatics		
Oral	LD50	>6800 mg/kg (rat)
Dermal	LD50	>3400 mg/kg (rab)
Inhalative	LC50/4 h	>10.2 mg/l (rat)
64742-48-9 Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics		
Oral	LD50	>5000 mg/kg (rat)
Dermal	LD50	>3000 mg/kg (rab)

· **Primary irritant effect:**
· **on the skin:** Irritant to skin and mucous membranes.
· **on the eye:** Irritating effect.
· **Sensitization:** No sensitizing effects known.
· **Germ cell mutagenicity** Not applicable
· **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)**		
1330-20-7	xylene	3
100-41-4	ethylbenzene	2B

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

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12 Ecological information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.
· **Bioaccumulative potential** No further relevant information available.
· **Mobility in soil** No further relevant information available.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable
· **vPvB:** Not applicable
· **Other adverse effects**
· **Additional ecological information:**
· **General notes:**
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.

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.

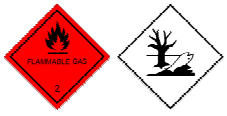
· **Uncleaned packagings:**
· **Recommendation:**
Packagings that cannot be cleansed are to be disposed of in the same manner as the product.
· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

· **UN-Number**	
· **DOT/TDG, ADR, IMDG, IATA**	UN1950
· **UN proper shipping name**	
· **DOT/TDG**	Aerosols, flammable
· **ADR**	1950 Aerosols
· **IMDG**	AEROSOLS, MARINE POLLUTANT
· **IATA**	AEROSOLS, flammable

· **Transport hazard class(es)**

· **DOT/TDG (Transport dangerous goods):**



· **Class** 2.1 Gases

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· **Label**	2.1
· **ADR**	
	
· **Class**	2 5F Gases
· **Label**	2.1
· **IMDG**	
	
· **Class**	2.1 Gases
· **Label**	2.1
· **IATA**	
	
· **Class**	2.1 Gases
· **Label**	2.1
· **Packing group**	
· **DOT/TDG, ADR, IMDG, IATA**	not regulated
· **Environmental hazards:**	Product contains environmentally hazardous substances:
· **Marine pollutant:**	Yes Symbol (fish and tree)
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable
· **Transport/Additional information:**	
· **DOT/TDG**	
· **Quantity limitations**	On passenger aircraft/rail: 75 kg On cargo aircraft only: 150 kg
· **Remarks:**	Special marking with the symbol (fish and tree).
· **ADR**	
· **Excepted quantities (EQ)**	Code: E0 Not permitted as Excepted Quantity
· **IMDG**	
· **Limited quantities (LQ)**	1L
· **Excepted quantities (EQ)**	Code: E0 Not permitted as Excepted Quantity

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· **Special precautions for user**	Warning: Gases
· **Hazard identification number (Kemler code):**	-
· **EMS Number:**	F-D,S-U
· **Stowage Code**	SW1 Protected from sources of heat. SW22 For AEROSOLS with a maximum capacity of 1 litre: Category A. For AEROSOLS with a capacity above 1 litre: Category B. For WASTE AEROSOLS: Category C, Clear of living quarters.
· **Segregation Code**	SG69 For AEROSOLS with a maximum capacity of 1 litre: Segregation as for class 9. Stow "separated from" class 1 except for division 1.4. For AEROSOLS with a capacity above 1 litre: Segregation as for the appropriate subdivision of class 2. For WASTE AEROSOLS: Segregation as for the appropriate subdivision of class 2.
· **UN "Model Regulation":**	UN 1950 AEROSOLS, 2.1

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):**

1330-20-7	xylene
100-41-4	ethylbenzene

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

106-97-8	n-Butan	ACTIVE
74-98-6	propane	ACTIVE
141-78-6	Ethyl acetate	ACTIVE
67-64-1	Acetone	ACTIVE
1330-20-7	xylene	ACTIVE
128601-23-0	Hydrocarbons, C9, aromatics	ACTIVE
64742-48-9	Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics	ACTIVE
75-28-5	isobutane	ACTIVE
100-41-4	ethylbenzene	ACTIVE
123-86-4	n-butyl acetate	ACTIVE

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· **Canadian substance listings:**

· **Canadian Domestic Substances List (DSL)**	
106-97-8	n-Butan
74-98-6	propane
141-78-6	Ethyl acetate
67-64-1	Acetone
1330-20-7	xylene
128601-23-0	Hydrocarbons, C9, aromatics
64742-48-9	Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics
75-28-5	isobutane
100-41-4	ethylbenzene
123-86-4	n-butyl acetate

· **Canadian Non-Domestic Substances List (NDSL)**
None of the ingredients is listed.

· **Canadian Ingredient Disclosure list (limit 0.1%)**
None of the ingredients is listed.

· **Canadian Ingredient Disclosure list (limit 1%)**	
106-97-8	n-Butan
141-78-6	Ethyl acetate
67-64-1	Acetone

· **Per- and polyfluoroalkyl substances (PFAS)**
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 GHS07

· **Signal word** Danger

· **Hazard-determining components of labeling:**
Ethyl acetate
Acetone
Hydrocarbons, C9, aromatics
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics
· **Hazard statements**
H222 Extremely flammable aerosol.
H229 Pressurized container: may burst if heated.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
· **Precautionary statements**
P101 If medical advice is needed, have product container or label at hand.

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P102	Keep out of reach of children.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211	Do not spray on an open flame or other ignition source.
P251	Do not pierce or burn, even after use.
P261	Avoid breathing spray.
P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
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 previous version** 01/22/2022
· **Version number of previous version:** 36
· **Date of preparation** 07/16/2026
· **Abbreviations and acronyms:**
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)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
· *** Data compared to the previous version altered.**

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