

MONOFIL VARIO+

High Gloss Clearcoat

Technical data sheet

En - 1/0917

MONOFIL VARIO+ High Gloss Clearcoat is a high-quality, fast drying finish for solvent or water-based basecoats.

Substrate:

well cured basecoats and old paintworks



Pretreatment / Cleansing:

pre-clean with silicone remover

Characteristics:

excellent weather resistance, scratch and shock-resistant
light fast and non yellowing
high surface hardness and at the same time good flexibility
good adhesion
good flow

**colour / gloss
level:**

colourless, high gloss

Preparation:



Shake can vigorously before use.

Application:



Spray to test - spray distance approx. 10 - 15 cm
2 - 3 coats. Dry film thickness between 30 - 40 µm.

Flash-off:



5 - 10 min. between coats.

After use:



After use hold the can upside-down and spray until the valve is empty
in order to avoid the paint drying up in the valve.

Drying time:



Drying:

dust dry: 10 min. / 20°C
set to touch: 20 min. / 20°C
ready for assembly: 12 h / 20°C

**Processing
conditions:**

from +10°C and up to 80% relative air humidity

Storage:

2 years if stored in cool and dry places

**VOC-
regulations:**

EU limit value for the product (cat. B/e): 840 g/l (2007)
This product contains max. 840 g/l of VOC.

Safety advice:

see material safety data sheet.

The data sheet is for information purpose only! The information given is in accordance to our knowledge up to the latest standards and is based on years of experience in the manufacture of our products. The information is non binding and without guarantee.

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

- **1.1 Product identifier**
- **Trade name:** Monofil Vario+ High Gloss Clearcoat
- **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** Clear coating material, Varnish
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Monofil Ltd. Aerosol System
Applied House, Fulflood Road
Leigh Park / Havant
Hampshire PO9 5AX
GB-England
Tel.: 0044 2392 470909
Fax.: 0044 2392 470467
- **1.4 Emergency telephone number:** Tel: 0044 2392 470909

2 Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Aerosol 1 H222-H229 Extremely flammable aerosol. Pressurised container: May burst if heated.



GHS07

Eye Irrit. 2 H319 Causes serious eye irritation.

STOT SE 3 H336 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.
- **Hazard pictograms**



GHS02



GHS07

- **Signal word** Danger
- **Hazard-determining components of labelling:**
acetone
butyl acetate
butan-1-ol
- **Hazard statements**
H222-H229 Extremely flammable aerosol. Pressurised container: May burst if heated.
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.
P103 Read label before use.

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- P210 *Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.*
- P251 *Do not pierce or burn, even after use.*
- 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.*
- P410+P412 *Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.*
- P501 *Dispose of contents/container in accordance with local/regional/national/international regulations.*

· **Additional information:**

EUH066 Repeated exposure may cause skin dryness or cracking.
Buildup of explosive mixtures possible without sufficient ventilation.

· **2.3 Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **3.2 Chemical characterisation: Mixtures**

· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 106-97-8 EINECS: 203-448-7 Reg.nr.: 01-2119474691-31	butane Flam. Gas 1, H220; Press. Gas C, H280	25-50%
CAS: 67-64-1 EINECS: 200-662-2 Reg.nr.: 01-2119471330-49	acetone Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336	10-25%
CAS: 74-98-6 EINECS: 200-827-9 Reg.nr.: 01-21194869440-21	propane Flam. Gas 1, H220; Press. Gas C, H280	10-25%
CAS: 123-86-4 EINECS: 204-658-1 Reg.nr.: 01-2119485493-29	butyl acetate Flam. Liq. 3, H226; STOT SE 3, H336	≥10-≤20%
CAS: 71-36-3 EINECS: 200-751-6 Reg.nr.: 01-2119484630-38	butan-1-ol Flam. Liq. 3, H226; Eye Dam. 1, H318; Acute Tox. 4, H302; Skin Irrit. 2, H315; STOT SE 3, H335-H336	≥2.5-≤3%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

4 First aid measures

· **4.1 Description of first aid measures**

· **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. If symptoms persist, consult a doctor.

· **After swallowing:** If symptoms persist consult doctor.

· **4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

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· **Information for doctor:**

5 Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** CO₂, sand, extinguishing powder. *Do not use water.*
- **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:**
Wear self-contained respiratory protective device.
Do not inhale explosion gases or combustion gases.

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 product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
- **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.

7 Handling and storage

- **7.1 Precautions for safe handling**
Keep away from heat and direct sunlight.
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
- **Information about fire - and explosion protection:**
Do not spray onto a naked flame or any incandescent material.
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Pressurised 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.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Store in a cool location.
Observe official regulations on storing packagings with pressurised containers.
- **Information about storage in one common storage facility:** *Store away from foodstuffs.*
- **Further information about storage conditions:**
Keep container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.
- **Storage class:** 2 B

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

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:**

106-97-8 butane

WEL Short-term value: 1810 mg/m³, 750 ppm
Long-term value: 1450 mg/m³, 600 ppm
Carc (if more than 0.1% of buta-1.3-diene)

67-64-1 acetone

WEL Short-term value: 3620 mg/m³, 1500 ppm
Long-term value: 1210 mg/m³, 500 ppm

123-86-4 butyl acetate

WEL Short-term value: 966 mg/m³, 200 ppm
Long-term value: 724 mg/m³, 150 ppm

71-36-3 butan-1-ol

WEL Short-term value: 154 mg/m³, 50 ppm
Sk

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

· 8.2 Exposure controls

· Personal protective equipment:

· General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the eyes.
Avoid contact with the eyes and skin.

· Respiratory protection:



In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· Protection of hands:



Protective gloves (EN 374)

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

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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· Breakthrough 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.

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· **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

Form:	Aerosol
Colour:	According to product specification
Odour:	Characteristic
Odour threshold:	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	-44.5°C

· **Flash point:** -97°C (DIN EN ISO 1523:2002)

· **Flammability (solid, gas):** Not applicable.

· **Ignition temperature:** 365°C (DIN 51794)

· **Decomposition temperature:** Not determined.

· **Auto-ignition temperature:** Product is not selfigniting.

· **Explosive properties:** In use, may form flammable/explosive vapour-air mixture.

· **Explosion limits:**

Lower:	1.2 Vol %
Upper:	13 Vol %

· **Vapour pressure at 20°C:** 8,300 hPa

· **Density at 20°C:** 0.723 g/cm³ (DIN EN ISO 2811-1)

· **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.

· **Solvent content:**

VOC (EC) 87.60 %

Solids content (weight-%): 12.4 %

· **9.2 Other information:** No further relevant information available.

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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:** Carbon monoxide

11 Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.
- **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 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.

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) : 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.

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.

· European waste catalogue

15 01 10*	packaging containing residues of or contaminated by hazardous substances
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- **Uncleaned packaging:**
- **Recommendation:**
Packagings that may not be cleansed are to be disposed of in the same manner as the product.

14 Transport information

· 14.1 UN-Number	UN1950
· ADR, IMDG, IATA	
· 14.2 UN proper shipping name	UN1950 AEROSOLS
· ADR	AEROSOLS
· IMDG	AEROSOLS, flammable
· IATA	
· 14.3 Transport hazard class(es)	
· ADR	
	
· Class	2 5F Gases.
· Label	2.1
· IMDG, IATA	
	
· Class	2.1
· Label	2.1
· 14.4 Packing group	Void
· ADR, IMDG, IATA	
· 14.5 Environmental hazards:	Not applicable.
· 14.6 Special precautions for user	Warning: Gases.
· Danger code (Kemler):	-
· 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.
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.

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· Transport/Additional information:
· ADR

· Transport category	2
· Tunnel restriction code	D

· IMDG

· Limited quantities (LQ)	1L
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· UN "Model Regulation":	UN 1950 AEROSOLS, 2.1
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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.

· Seveso category P3a FLAMMABLE AEROSOLS

· Qualifying quantity (tonnes) for the application of lower-tier requirements 150 t

· Qualifying quantity (tonnes) for the application of upper-tier requirements 500 t

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

· National regulations:

Class	Share in %
NK	50-100

· 15.2 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.

· Relevant phrases

H220 Extremely flammable gas.

H225 Highly flammable liquid and vapour.

H226 Flammable liquid and vapour.

H280 Contains gas under pressure; may explode if heated.

H302 Harmful if swallowed.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H336 May cause drowsiness or dizziness.

· 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)

VOC: Volatile Organic Compounds (USA, EU)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Gas 1: Flammable gases – Category 1

Aerosol 1: Aerosols – Category 1

Press. Gas C: Gases under pressure – Compressed gas

Flam. Liq. 2: Flammable liquids – Category 2

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Flam. Liq. 3: Flammable liquids – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
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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