

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Untergrundfarbe 104 A/S Spray

Revision date: 05.06.2023

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

1.1. Product identifier

Untergrundfarbe 104 A/S Spray

Further trade names

Article no. (user):
135.006.021

UFI: JRM5-PXS0-WQ65-S5WT

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture

Inspection of metals

1.3. Details of the supplier of the safety data sheet

Company name:	Helling GmbH	
Street:	Spoekerdamm 2	
Place:	D-25436 Heidgraben	
Telephone:	+49-4122-922-0	Telefax: +49-4122-922-201
e-mail:	info@helling.de	
Internet:	www.helling.de	

1.4. Emergency telephone number: Emergency CONTACT (24-Hour-Number): GBK GmbH +49 (0)6132-84463

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Hazard categories:
Aerosols: Aerosol 1
Serious eye damage/eye irritation: Eye Irrit. 2
Specific target organ toxicity - single exposure: STOT SE 3
Hazardous to the aquatic environment: Aquatic Chronic 3
Hazard Statements:
Extremely flammable aerosol.
Pressurised container: May burst if heated.
Causes serious eye irritation.
May cause drowsiness or dizziness.
Harmful to aquatic life with long lasting effects.

2.2. Label elements

Regulation (EC) No 1272/2008

Hazard components for labelling

ethyl acetate
n-butyl acetate**Signal word:** Danger

Pictograms:



Hazard statements

H222	Extremely flammable aerosol.
H229	Pressurised container: May burst if heated.
H319	Causes serious eye irritation.

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H336 May cause drowsiness or dizziness.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

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.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing 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.
P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
P501 Dispose of contents/container to industrial incineration plant.

Special labelling of certain mixtures

EUH066 Repeated exposure may cause skin dryness or cracking.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients**3.2. Mixtures**

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Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
141-78-6	ethyl acetate			20 - 24,5 %
	205-500-4	607-022-00-5	01-2119475103-46	
	Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336 EUH066			
74-98-6	propane			10 - 24,5 %
	200-827-9	601-003-00-5	01-2119486944-21	
	Flam. Gas 1; H220			
106-97-8	butane			10 - 24,5 %
	203-448-7	601-004-00-0	01-2119474691-32	
	Flam. Gas 1; H220			
123-86-4	n-butyl acetate			3 - 10 %
	204-658-1	607-025-00-1	01-2119485493-29	
	Flam. Liq. 3, STOT SE 3; H226 H336 EUH066			
107-98-2	1-methoxy-2-propanol; monopropylene glycol methyl ether			3 - 5 %
	203-539-1	603-064-00-3		
	Flam. Liq. 3, STOT SE 3; H226 H336			
64742-95-6	Solvent naphtha (petroleum), light arom.; Low boiling point naphtha - unspecified			2 - 6 %
	265-199-0	649-356-00-4	01-2119455851-35	
	Flam. Liq. 3, STOT SE 3, STOT SE 3, Asp. Tox. 1, Aquatic Chronic 2; H226 H335 H336 H304 H411			
75-28-5	isobutane			1 - 2,4 %
	200-857-2	601-004-00-0		
	Flam. Gas 1; H220			

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
141-78-6	205-500-4	ethyl acetate	20 - 24,5 %
		inhalation: LC50 = 1600 mg/l (vapours); oral: LD50 = 5620 mg/kg	
74-98-6	200-827-9	propane	10 - 24,5 %
		inhalation: LC50 = > 20 mg/l (vapours)	
106-97-8	203-448-7	butane	10 - 24,5 %
		inhalation: LC50 = 658 mg/l (dusts or mists)	
123-86-4	204-658-1	n-butyl acetate	3 - 10 %
		inhalation: LC50 = > 21 mg/l (vapours); dermal: LD50 = > 5000 mg/kg; oral: LD50 = 13100 mg/kg	
107-98-2	203-539-1	1-methoxy-2-propanol; monopropylene glycol methyl ether	3 - 5 %
		dermal: LD50 = 11000 mg/kg; oral: LD50 = > 5000 mg/kg	
64742-95-6	265-199-0	Solvent naphtha (petroleum), light arom.; Low boiling point naphtha - unspecified	2 - 6 %
		inhalation: LC50 = > 10,2 mg/l (vapours); dermal: LD50 = > 3400 mg/kg; oral: LD50 = > 6800 mg/kg	

SECTION 4: First aid measures

4.1. Description of first aid measures

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General information

First aider: Pay attention to self-protection!

After inhalation

Provide fresh air. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After contact with skin

Wash with plenty of water. Change contaminated clothing.

After contact with eyes

If product gets into the eye, keep eyelid open and rinse immediately with large quantities of water, for at least 5 minutes. Subsequently consult an ophthalmologist.

After ingestion

Rinse mouth immediately and drink plenty of water. Medical treatment necessary.

4.2. Most important symptoms and effects, both acute and delayed

Following inhalation: Headache. drowsiness. Dizziness.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

Vapours may form explosive mixtures with air. Heating causes rise in pressure with risk of bursting.

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

Additional information

Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures****General advice**

Remove all sources of ignition. Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes.

6.2. Environmental precautions

Do not allow uncontrolled discharge of product into the environment.

6.3. Methods and material for containment and cleaning up**Other information**

Ventilate affected area.

Flammable liquids: Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

6.4. Reference to other sections

Treat the recovered material as prescribed in the section on waste disposal.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

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Advice on safe handling

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. Vapours may form explosive mixtures with air.

Advice on general occupational hygiene

Remove contaminated, saturated clothing immediately. Protect skin by using skin protective cream. After work, wash hands and face. When using do not eat or drink.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed. Keep in a cool, well-ventilated place. Keep away from sources of ignition - No smoking.

Hints on joint storage

Do not store together with: Oxidizing agents.

7.3. Specific end use(s)

In case of special use, contact supplier.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
107-98-2	1-Methoxypropan-2-ol	100	375		TWA (8 h)	WEL
		150	560		STEL (15 min)	WEL
106-97-8	Butane	600	1450		TWA (8 h)	WEL
		750	1810		STEL (15 min)	WEL
123-86-4	Butyl acetate	150	724		TWA (8 h)	WEL
		200	966		STEL (15 min)	WEL
141-78-6	Ethyl acetate	200	734		TWA (8 h)	WEL
		400	1468		STEL (15 min)	WEL

DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
141-78-6	ethyl acetate			
Worker DNEL, long-term		inhalation	local	734 mg/m ³
Worker DNEL, long-term		inhalation	systemic	734 mg/m ³

8.2. Exposure controls



Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

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Individual protection measures, such as personal protective equipment**Eye/face protection**

Wear eye/face protection.

Hand protection

The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Recommended protective gloves brand: PVA (Polyvinyl alcohol).

Protect skin by using skin protective cream.

Skin protection

Body protection: not required.

Respiratory protection

With correct and proper use, and under normal conditions, breathing protection is not required.

Environmental exposure controls

No information available.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state:	Aerosol
Colour:	white
Odour:	characteristic
Melting point/freezing point:	not determined
Boiling point or initial boiling point and boiling range:	-44 °C
Flammability	
Solid/liquid:	not applicable
Gas:	not applicable
Lower explosion limits:	1,5 vol. %
Upper explosion limits:	11,5 vol. %
Flash point:	-97 °C
Auto-ignition temperature:	365 °C
Decomposition temperature:	not determined
pH-Value:	not determined
Viscosity / kinematic:	not determined
Water solubility:	partially miscible
Solubility in other solvents	
not determined	
Partition coefficient n-octanol/water:	not determined
Vapour pressure:	not determined
Density (at 20 °C):	~0,815 g/cm ³
Relative vapour density:	not determined

9.2. Other information**Information with regard to physical hazard classes****Explosive properties**

Heating causes rise in pressure with risk of bursting. Vapours may generate explosive mixture with air.

Self-ignition temperature

Solid: not applicable

Gas: not applicable

Oxidizing properties

Not oxidising.

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Other safety characteristics

Evaporation rate:	not determined
Solvent content:	~37%
Solid content:	24%
Viscosity / dynamic:	not determined

Further Information

Concentrated vapours are heavier than air.

SECTION 10: Stability and reactivity**10.1. Reactivity**

No risks worthy of mention.

10.2. Chemical stability

No risks worthy of mention.

10.3. Possibility of hazardous reactions

Vapours may form explosive mixtures with air.

10.4. Conditions to avoid

Remove all sources of ignition. Keep away from heat.

10.5. Incompatible materials

Oxidizing agents.

10.6. Hazardous decomposition products

Carbon dioxide. Carbon monoxide

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.

ATEmix calculated

ATE (inhalation gas) 2642,6 ppm

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CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
141-78-6	ethyl acetate				
	oral	LD50 5620 mg/kg	Rat		
	inhalation (4 h) vapour	LC50 1600 mg/l	Rat		
74-98-6	propane				
	inhalation (4 h) vapour	LC50 > 20 mg/l	Rat		
106-97-8	butane				
	inhalation (4 h) dust/mist	LC50 658 mg/l	Rat		
123-86-4	n-butyl acetate				
	oral	LD50 13100 mg/kg	Rat		
	dermal	LD50 > 5000 mg/kg	Rabbit		
	inhalation (4 h) vapour	LC50 > 21 mg/l	Rat		
107-98-2	1-methoxy-2-propanol; monopropylene glycol methyl ether				
	oral	LD50 > 5000 mg/kg	Rat	IUCLID	
	dermal	LD50 11000 mg/kg	Rabbit		
64742-95-6	Solvent naphtha (petroleum), light arom.; Low boiling point naphtha - unspecified				
	oral	LD50 > 6800 mg/kg	Rat		
	dermal	LD50 > 3400 mg/kg	Rabbit		
	inhalation vapour	LC50 > 10,2 mg/l	Rat		

Irritation and corrosivity

Causes serious eye irritation.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Irritant effect on the skin: slightly irritant but not relevant for classification.

Sensitising effects

Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data, the classification criteria are not met.

STOT-single exposure

May cause drowsiness or dizziness. (ethyl acetate)

STOT-repeated exposure

Repeated exposure may cause skin dryness or cracking.

Aspiration hazard

Based on available data, the classification criteria are not met.

11.2. Information on other hazards

Endocrine disrupting properties

see section 12

SECTION 12: Ecological information

12.1. Toxicity

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Harmful to aquatic life with long lasting effects.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
141-78-6	ethyl acetate					
	Acute fish toxicity	LC50 328 mg/l	96 h			
	Acute algae toxicity	ErC50 2500 mg/l	96 h			
74-98-6	propane					
	Acute fish toxicity	LC50 > 100 mg/l	96 h			
	Acute algae toxicity	ErC50 > 100 mg/l				
	Acute crustacea toxicity	EC50 > 100 mg/l	48 h			
107-98-2	1-methoxy-2-propanol; monopropylene glycol methyl ether					
	Acute fish toxicity	LC50 4600 - 10000 mg/l	96 h	Leuciscus idus	IUCLID	
	Acute algae toxicity	ErC50 > 1000 mg/l	72 h	Selenastrum capricornutum		
	Acute crustacea toxicity	EC50 > 500 mg/l	48 h	Daphnia magna	IUCLID	
64742-95-6	Solvent naphtha (petroleum), light arom.; Low boiling point naphtha - unspecified					
	Acute crustacea toxicity	EC50 3,2 mg/l	48 h	Daphnia magna		

12.2. Persistence and degradability

The product has not been tested.

12.3. Bioaccumulative potential

The product has not been tested.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
74-98-6	propane	2,36
106-97-8	butane	2,89
107-98-2	1-methoxy-2-propanol; monopropylene glycol methyl ether	-0,437
75-28-5	isobutane	2,8

12.4. Mobility in soil

The product has not been tested.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

The product has not been tested.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

The product has not been tested.

12.7. Other adverse effects

No information available.

Further information

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

SECTION 13: Disposal considerations

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13.1. Waste treatment methods

Disposal recommendations

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation.

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

List of Wastes Code - residues/unused products

160504 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; gases in pressure containers (including halons) containing hazardous substances; hazardous waste

List of Wastes Code - contaminated packaging

150104 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); metallic packaging

Contaminated packaging

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number: UN 1950
14.2. UN proper shipping name: AEROSOLS
14.3. Transport hazard class(es): 2
 Hazard label: 2.1



Classification code: 5F
 Special Provisions: 190 327 344 625
 Limited quantity: 1 L
 Transport category: 2
 Tunnel restriction code: D

Inland waterways transport (ADN)

14.1. UN number or ID number: UN 1950
14.2. UN proper shipping name: AEROSOLS
14.3. Transport hazard class(es): 2
 Hazard label: 2.1



Classification code: 5F
 Special Provisions: 190 327 344 625
 Limited quantity: 1 L

Marine transport (IMDG)

14.1. UN number or ID number: UN 1950
14.2. UN proper shipping name: AEROSOLS
14.3. Transport hazard class(es): 2.1
14.4. Packing group: -
 Hazard label: 2.1

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Special Provisions: 63, 190, 277, 327, 344, 959
 Limited quantity: See SP277
 EmS: F-D, S-U

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: UN 1950
14.2. UN proper shipping name: AEROSOLS, flammable
14.3. Transport hazard class(es): 2.1
 Hazard label: 2.1



Special Provisions: A145 A167 A802
 Limited quantity Passenger: 30 kg G
 IATA-packing instructions - Passenger: 203
 IATA-max. quantity - Passenger: 75 kg
 IATA-packing instructions - Cargo: 203
 IATA-max. quantity - Cargo: 150 kg

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

No information available.

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 28, Entry 40, Entry 75

2004/42/EC (VOC): 76,00 %

National regulatory information

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Water hazard class (D): 2 - obviously hazardous to water

15.2. Chemical safety assessment

For the following substances of this mixture a chemical safety assessment has been carried out:
 Solvent naphtha (petroleum), light arom.; Low boiling point naphtha - unspecified

SECTION 16: Other information

Changes

section 1, 11, 12, 13, 14, 15, 16

Abbreviations and acronyms

CLP: Classification, labelling and Packaging

REACH: Registration, Evaluation and Authorization of Chemicals

GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals

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UN: United Nations
CAS: Chemical Abstracts Service
DNEL: Derived No Effect Level
DMEL: Derived Minimal Effect Level
PNEC: Predicted No Effect Concentration
ATE: Acute toxicity estimate
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%
LL50: Lethal loading, 50%
EL50: Effect loading, 50%
EC50: Effective Concentration 50%
ErC50: Effective Concentration 50%, growth rate
NOEC: No Observed Effect Concentration
BCF: Bio-concentration factor
PBT: persistent, bioaccumulative, toxic
vPvB: very persistent, very bioaccumulative
ADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID: Regulations concerning the international carriage of dangerous goods by rail
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
(Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures)
IMDG: International Maritime Code for Dangerous Goods
EmS: Emergency Schedules
MFAG: Medical First Aid Guide
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
MARPOL: International Convention for the Prevention of Marine Pollution from Ships
IBC: Intermediate Bulk Container
SVHC: Substance of Very High Concern

Key literature references and sources for data

General review and adaption to regulation (EC) 2020/878

Relevant H and EUH statements (number and full text)

H220	Extremely flammable gas.
H222	Extremely flammable aerosol.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H229	Pressurised container: May burst if heated.
H304	May be fatal if swallowed and enters airways.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

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(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)