

Safety Data Sheet

according to Regulation (EC) No 1907/2006

NORD-TEST Entwickler U 89 Spray

Revision date: 23.06.2020

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

NORD-TEST Entwickler U 89 Spray

Further trade namesArticle no. (user):
121.300.701**1.2. Relevant identified uses of the substance or mixture and uses advised against****Use of the substance/mixture**

Penetration test

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: GIZ Nord Göttingen +49-(0)551-19240
(Information in German and English)

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Regulation (EC) No. 1272/2008**

Hazard categories:
Aerosol: Aerosol 1
Serious eye damage/eye irritation: Eye Irrit. 2
Specific target organ toxicity - single exposure: STOT SE 3
Hazard Statements:
Extremely flammable aerosol.
Pressurised container: May burst if heated.
Causes serious eye irritation.
May cause drowsiness or dizziness.

2.2. Label elements**Regulation (EC) No. 1272/2008****Hazard components for labelling**ethanol, ethyl alcohol
acetone; propan-2-one; propanone**Signal word:** Danger**Pictograms:****Hazard statements**

H222	Extremely flammable aerosol.
H229	Pressurised container: May burst if heated.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

Precautionary statements

P102	Keep out of reach of children.
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- 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.
- 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.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
106-97-8	butane			35 - 42 %
	203-448-7	601-004-00-0	01-2119474691-32	
	Flam. Gas 1; H220			
64-17-5	ethanol, ethyl alcohol			23 - 30 %
	200-578-6	603-002-00-5	01-2119457610-43	
	Flam. Liq. 2, Eye Irrit. 2; H225 H319			
74-98-6	propane			12 - 20 %
	200-827-9	601-003-00-5	01-2119486944-21	
	Flam. Gas 1; H220			
67-64-1	acetone; propan-2-one; propanone			6 - 11 %
	200-662-2	606-001-00-8	01-2119471330-49	
	Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336 EUH066			

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

SECTION 4: First aid measures

4.1. Description of first aid measures

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.

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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**Carbon dioxide (CO₂). Foam. Extinguishing powder. Atomized water.
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

Combustible. 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

Use water spray jet to protect personnel and to cool endangered containers. 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**

Remove all sources of ignition. Provide adequate ventilation. Do not breathe gas/vapour/aerosol.

6.2. Environmental precautions

Do not allow uncontrolled discharge of product into the environment. Explosion hazard.

6.3. Methods and material for containment and cleaning up

Ventilate affected area.

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

6.4. Reference to other sections

Disposal: see section 13

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

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)Please refer to our internet website for more information: www.helling.de

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
67-64-1	Acetone	500	1210		TWA (8 h)	WEL
		1500	3620		STEL (15 min)	WEL
106-97-8	Butane	600	1450		TWA (8 h)	WEL
		750	1810		STEL (15 min)	WEL
64-17-5	Ethanol	1000	1920		TWA (8 h)	WEL

DNEL/DMEL values

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
64-17-5	ethanol, ethyl alcohol			
Consumer DNEL, long-term		oral	systemic	87 mg/kg bw/day
Consumer DNEL, long-term		dermal	systemic	206 mg/kg bw/day
Worker DNEL, long-term		dermal	systemic	343 mg/kg bw/day
Consumer DNEL, acute		inhalation	local	950 mg/m³
Consumer DNEL, long-term		inhalation	systemic	114 mg/m³
Worker DNEL, acute		inhalation	local	1900 mg/m³
Worker DNEL, long-term		inhalation	systemic	950 mg/m³
67-64-1	acetone; propan-2-one; propanone			
Consumer DNEL, long-term		oral	systemic	62 mg/kg bw/day
Consumer DNEL, long-term		dermal	systemic	62 mg/kg bw/day
Worker DNEL, long-term		dermal	systemic	186 mg/kg bw/day
Worker DNEL, acute		inhalation	local	2420 mg/m³
Consumer DNEL, long-term		inhalation	systemic	200 mg/m³
Worker DNEL, long-term		inhalation	systemic	1210 mg/m³

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PNEC values

CAS No	Substance	
Environmental compartment		Value
64-17-5	ethanol, ethyl alcohol	
Freshwater		0,96 mg/l
Marine water		0,79 mg/l
Freshwater sediment		3,6 mg/kg
Marine sediment		2,9 mg/kg
Micro-organisms in sewage treatment plants (STP)		580 mg/l
Soil		0,63 mg/kg
67-64-1	acetone; propan-2-one; propanone	
Freshwater		10,6 mg/l
Freshwater (intermittent releases)		21 mg/l
Marine water		1,06 mg/l
Freshwater sediment		30,4 mg/l
Marine sediment		3,04 mg/l
Micro-organisms in sewage treatment plants (STP)		100 mg/l
Soil		29,5 mg/l

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.

Protective and hygiene measures

Change contaminated clothing. Wash hands before breaks and after work. When using do not eat or drink.

Eye/face protection

Wear eye/face protection.

Hand protection

Tested protective gloves are to be worn: Solvent-proof.

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.

Before using check leak tightness / impermeability.

Recommended protective gloves brand:

NBR (Nitrile rubber). Butyl rubber. FKM (fluororubber).

penetration time (maximum wearing period): > 8 h (DIN EN 374)

Protective gloves have to be replaced at the first sign of deterioration.

Unsuitable material: NR (Natural rubber (Caoutchouc), Natural latex). PVC (Polyvinyl chloride). Thick material. Leather

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.

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Aerosol
Colour:	white
Odour:	Alcohol
pH-Value:	not applicable

Changes in the physical state

Melting point:	not applicable
Initial boiling point and boiling range:	not applicable
Flash point:	not applicable

Explosive properties

not explosive.

Lower explosion limits:	1,4 g/m ³
Upper explosion limits:	10,8 g/m ³
Ignition temperature:	not determined
Vapour pressure: (at 20 °C)	3100 hPa

Density (at 20 °C):	0,66 g/cm ³
Water solubility:	partially soluble

Solubility in other solvents

not determined

Partition coefficient:	not determined
Viscosity / dynamic:	not applicable
Viscosity / kinematic:	not applicable
Solvent separation test:	not applicable
Solvent content:	20 - 25 %

9.2. Other information

Solid content:	9,44%
No information available.	

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

Keep away from heat. Ignition hazard.

10.5. Incompatible materials

Oxidizing agents, strong.

10.6. Hazardous decomposition products

Carbon dioxide. Carbon monoxide

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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

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

CAS No	Chemical name					
	Exposure route	Dose	Species	Source	Method	
106-97-8	butane					
	inhalation (4 h) aerosol	LC50 658 mg/l	Rat			
64-17-5	ethanol, ethyl alcohol					
	oral	LD50 10470 mg/kg	Rat	IUCLID		
	dermal	LD50 > 2000 mg/kg	Rabbit			
	inhalation (4 h) vapour	LC50 95,6 mg/l	Rat	RTECS		
74-98-6	propane					
	inhalation (4 h) vapour	LC50 > 20 mg/l	Rat			
67-64-1	acetone; propan-2-one; propanone					
	oral	LD50 5800 mg/kg	Rat	RTECS		
	dermal	LD50 20000 mg/kg	Rabbit	IUCLID		
	inhalation (4 h) vapour	LC50 76 mg/l	Rat			

Irritation and corrosivity

Causes serious eye irritation.

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

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.

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.

SECTION 12: Ecological information

12.1. Toxicity

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CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
64-17-5	ethanol, ethyl alcohol					
	Acute fish toxicity	LC50 8140 mg/l	96 h	Leuciscus idus (golden orfe)		
	Acute algae toxicity	ErC50 275 mg/l	72 h	Chlorella vulgaris		
	Acute crustacea toxicity	EC50 > 10000 mg/l	48 h	Daphnia magna	IUCLID	
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			
67-64-1	acetone; propan-2-one; propanone					
	Acute fish toxicity	LC50 5540 mg/l	96 h	Onchorhynchus mykiss		
	Acute crustacea toxicity	EC50 6100 mg/l	48 h	Daphnia magna		
	Algae toxicity	NOEC 530 mg/l	8 d	Microcystis aeruginosa		

12.2. Persistence and degradability

Product is partially biodegradable.

The insoluble part can be precipitated mechanically in suitable sewage treatment plants.

12.3. Bioaccumulative potential

Based on the n-octanol/water partition coefficient significant accumulation in organisms is not expected.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
106-97-8	butane	2,89
64-17-5	ethanol, ethyl alcohol	-0,31
74-98-6	propane	2,36
67-64-1	acetone; propan-2-one; propanone	-0,24

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

The components in this formulation do not meet the criteria for classification as PBT or vPvB.

12.6. Other adverse effects

Do not empty into drains.

SECTION 13: Disposal considerations

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.

List of Wastes Code - residues/unused products

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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

Water (with cleaning agent). Completely emptied packages can be recycled.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number: UN1950
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

Other applicable information (land transport)

EQ: E0

Inland waterways transport (ADN)

14.1. UN number: UN1950
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

Other applicable information (inland waterways transport)

EQ: E0

Marine transport (IMDG)

14.1. UN number: UN1950
14.2. UN proper shipping name: AEROSOLS
14.3. Transport hazard class(es): 2
14.4. Packing group: -
Hazard label: 2, see SP63

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

Other applicable information (marine transport)

EQ: E0

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number: UN1950
14.2. UN proper shipping name: AEROSOLS, flammable
14.3. Transport hazard class(es): 2.1
Hazard label: 2.1



Special Provisions: A145 A167 A803
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

Other applicable information (air transport)

EQ: E0

Passenger-LQ: Y203

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

No information available.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

none

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 3: ethanol, ethyl alcohol

Entry 28: butane

2004/42/EC (VOC): 90,63 % (598,158 g/l)

Additional information

aerosol directive (75/324/EEC).

Safety data sheet available for professional user on request.

Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50 °C. Do not pierce or burn, even after use.

Do not spray on a naked flame or any incandescent material. Keep away from sources of ignition - No smoking.

Keep out of the reach of children.

In case of insufficient ventilation and/or through use, explosive/highly flammable mixtures may develop.

National regulatory information

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Water hazard class (D): 1 - slightly hazardous to water

15.2. Chemical safety assessment

For the following substances of this mixture a chemical safety assessment has been carried out:
acetone; propan-2-one; propanone

SECTION 16: Other information**Changes**

section 9

Relevant H and EUH statements (number and full text)

H220	Extremely flammable gas.
H222	Extremely flammable aerosol.
H225	Highly flammable liquid and vapour.
H229	Pressurised container: May burst if heated.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
EUH066	Repeated exposure may cause skin dryness or cracking.

Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

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