

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### NORD-TEST Entwickler U 89 Spray

Revision date: 19.11.2018

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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 names

Article 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	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
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 (CO<sub>2</sub>). 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](http://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 <sup>3</sup>	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	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/m <sup>3</sup>
	Consumer DNEL, long-term	inhalation	systemic	114 mg/m <sup>3</sup>
	Worker DNEL, acute	inhalation	local	1900 mg/m <sup>3</sup>
	Worker DNEL, long-term	inhalation	systemic	950 mg/m <sup>3</sup>
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/m <sup>3</sup>
	Consumer DNEL, long-term	inhalation	systemic	200 mg/m <sup>3</sup>
	Worker DNEL, long-term	inhalation	systemic	1210 mg/m <sup>3</sup>

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#### PNEC values

CAS No	Substance	Value
Environmental compartment		
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 determined
Lower explosion limits:	not determined
Upper explosion limits:	not determined
Ignition temperature:	not determined
Vapour pressure: (at 20 °C)	3100 hPa
Density (at 20 °C):	0,66 g/cm <sup>3</sup>
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

#### SECTION 11: Toxicological information

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#### 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 mg/kg 10470	Rat	IUCLID	
	dermal	LD50 mg/kg > 2000	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 mg/kg 5800	Rat	RTECS	
	dermal	LD50 mg/kg 20000	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 mg/l	8140	96 h	Leuciscus idus (golden orfe)	
	Acute algae toxicity	ErC50 mg/l	275 mg/l	72 h	Chlorella vulgaris	
	Acute crustacea toxicity	EC50 mg/l	> 10000	48 h	Daphnia magna	IUCLID
74-98-6	propane					
	Acute fish toxicity	LC50 mg/l	> 100	96 h		
	Acute algae toxicity	ErC50 mg/l	> 100			
	Acute crustacea toxicity	EC50 mg/l	> 100	48 h		
67-64-1	acetone; propan-2-one; propanone					
	Acute fish toxicity	LC50 mg/l	5540	96 h	Onchorhynchus mykiss	
	Acute crustacea toxicity	EC50 mg/l	6100	48 h	Daphnia magna	
	Algea 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

##### Advice on disposal

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.

##### Waste disposal number of waste from 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

**Waste disposal number of 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 contaminating class (D): 1 - slightly water contaminating

**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 5, 11, 15

**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 present level of our knowledge. It does not, however, give assurances 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.)*