
1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Name of product	NORD-TEST Entwickler U 89 Spray Art.-Nr. 121.300.701
Manufacturer/distributor	Helling GmbH Spökerdamm 2, D-25436 Heidgraben Phone +49 4122 9220, Fax +49 4122 922201 E-Mail info@hellinggmbh.de Internet www.hellinggmbh.de
Advice	Verkauf NDT Phone +49 4122 922246 Fax +49 4122 922201 E-mail (competent person) ctb.wf@freenet.de
Emergency advice	Zentrale Phone +49 4122 9220 This number is only available at office times.
Recommended intended purpose(s)	Developer for colour penetrating test
Effect of the substance / the formulation	Observation of material defects through red colour indication

2. HAZARDS IDENTIFICATION

! Classification according to 67/548/EEC or 1999/45/EC

F+; R12

! R-phrases

12 Extremely flammable.

Information pertaining to special dangers for human and environment

When used formation of explosive gas/air mixtures may be possible

3. COMPOSITION/INFORMATION ON INGREDIENTS

Description

Ethanol, inorganic solids, propane, butane

Hazardous ingredients

CAS No	EC No	Name	[% weight]	Classification according to 67/548/EEC
64-17-5	200-578-6	ethanol	20 - 25	F R11
74-98-6	200-827-9	propane	8 - 12	F+ R12
106-97-8	203-448-7	butane	42 - 48	F+ R12

Additional advice

The complete wording of the R-sentences specified here is shown under point 16

4. FIRST AID MEASURES

General information

Take affected person into fresh air.

In case of inhalation

In case of inhalation remove the casualty into fresh air and seek medical advice.

In case of skin contact

wash with soap and water

In case of eye contact

Eye rinsing with water carefully while protecting unhurt eye.

In case of ingestion

If swallowed seek medical advice immediately and show the doctor packing or label.

Physician's information / possible symptoms

unknown

Physician's information / possible dangers

unknown

Treatment (Advice to doctor)

Treat symptoms.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Alcohol-resistant foam

Dry powder

Carbon dioxide

Extinguishing media which must not be used for safety reasons

Full water jet

Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases

Risk of bursting by fire heat

Special protective equipment for fire-fighters

no

not required

Additional information

Cool endangered containers with water spray jet.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Ensure adequate ventilation.

Keep away sources of ignition.

Environmental precautions

not required

Methods for cleaning up

Send in suitable containers for recovery or disposal.

Take up with absorbent material.

Additional Information

no

7. HANDLING AND STORAGE

Advice on safe handling

Use only in well-ventilated areas.

Advice on protection against fire and explosion

Highly volatile, flammable components are released in processing.

Requirements for storage rooms and vessels

Observe National and Local regulation

Advice on storage compatibility

no

Further information on storage conditions

Protect from heat and direct solar radiation.

Storage group 2B

Fire class C

Information on storage stability

Storage time: 24 months.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Additional advice on system design

use only in well-ventilated area

Additional advice

no

Respiratory protection

Generally not required

Hand protection

not required

Eye protection

not required

Skin protection

not required

General protective measures

Do not inhale aerosols

Hygiene measures

no

9. PHYSICAL AND CHEMICAL PROPERTIES

Form
aerosol

Colour
white

Odour
alcoholic

Important health, safety and environmental information

	Value	Temperature	at	Method	Remark
pH value in delivery state					not applicable
Acid number					not applicable
Changes in physical state gas					not applicable
Changes in physical state solid/fluid					not applicable
Flash point					not applicable
Flammable solid					not applicable
Flammability (gas)					not applicable
Ignition temperature					not applicable
Autoignition					not applicable
Lower explosion limit					not applicable
Upper explosion limit					not applicable
Vapour pressure	3100 hPa	20	°C		

	Value	Temperature	at	Method	Remark
Density	0,66 g/cm ³	20 °C			
Bulk density					not applicable
Rel. vapour density					not applicable
Solubility in water					partially soluble
Solubility/other					polar organic solvents (partially soluble)
Partition coefficient (log p_{OW})					not determined
Viscosity					not applicable
Viscosit					not applicable
Solvent separation test					not applicable
Solvent concentration	20 - 25 %				

Oxidizing properties

not in the sense of the Dangerous Preparations Directives

Explosive properties

When used formation of explosive mixtures may be possible

By use formation of explosive vapor/air-mixtures possible

10. STABILITY AND REACTIVITY

Conditions to avoid

Because of the high vapour pressure, containers are liable to burst if temperature rises.

Materials to avoid

no

Hazardous decomposition products

not by destined use

Additional information

no

11. TOXICOLOGICAL INFORMATION

Acute toxicity/Irritability/Sensitization

	Value/Validation	Species	Method	Remark
LD 50 acute oral				no data available
LD 50 acute dermal				no data available
LC 50 acute inhalation				no data available
Irritability skin				Sometimes short-term reddening of skin may occur.

Value/Validation	Species	Method	Remark
Irritability eye			low
Skin sensitization			no
Sensitization respiratory system			no

Subacute Toxicity - Carcinogenicity

Value	Species	Method	Validation
Subacute Toxicity			no data available
Subchronic Toxicity			no data available
Chronic Toxicity			no data available
Mutagenicity			no
Reproduction- Toxicity			no
Carcinogenicity			no
Toxicity test (Additional information) no			
Experiences made from practice no negative experience			
Additional information no			

12. ECOLOGICAL INFORMATION

Data on elimination (persistence and degradability)

Elimination rate	Method of analysis	Method	Validation
Physico-chemical degradability	the product is partially insoluble in water. It can be largely eliminated from the water by mechanical separation.		
Biological degradability	The organic component of the product is biodegradable.		
Degradability			the organic part is readily biodegradable
Biological eliminability			not applicable
Degradability according to WRMG	not applicable		
Mobility and bioaccumulative potential not determined			

Ecotoxicological effects

Value	Species	Method	Validation
Fish			no data available
Daphnia			no data available
Algae			no data available
Bacteria			no data available

Behaviour in sewage plant

When low concentrations are discharged correctly into adapted biological sewage treatment plants, interference with the degradation activity of activated sludge is not likely.

Respiration inhibition of activated sludge

Value	Method	Remark
EC 50		not determined

Additional ecological information

Value	Method	Remark
OC		not determined
COD		not determined
BOD		not determined
AOX	no	

Contains following heavy metals and compounds of the 76/464/EWG

no

General regulation

no

13. DISPOSAL CONSIDERATIONS

Waste code No.

14 06 05*

Name of waste

sludges or solid wastes containing other solvents

Wastes marked with an asterisk are considered to be hazardous waste pursuant to Directive 91/689/EEC on hazardous waste.

Recommendations for the product

material recycling according to National or Local regulations

Recommendations for packaging

material recycling EWC 150104

Recommended cleansing agent

no

General information

small amounts dispose with container

14. TRANSPORT INFORMATION

Land and inland navigation transport ADR/RID

UN 1950 AEROSOLS, 2

Entry in transportation paper: transport according to Chapter 3.4.3 ADR

Marking: UN 1950

Marine transport IMDG

UN 1950 AEROSOLS, 2

Entry in transportation document: limited quantities

Marks: AEROSOLS UN 1950

Air transport ICAO/IATA-DGR

UN 1950 Aerosols, flammable, 2.1

UN-4G/Y fibre board boxes required

Label: Flammable Gas

Marking: Aerosols, flammable UN 1950

Transport/further information

Transport Emergency Card: not required

! 15. REGULATORY INFORMATION

! Remarks for labelling

Die Kennzeichnung mit Flammensymbol und R 12 erfolgt nach Aerosol-Richtlinie 75/324/EWG . Die Vorschriften der Richtlinie 1999/45/EG führen nicht zu einer Einstufung und Kennzeichnung als hochentzündlich

Hazardous ingredients for labeling

Petroleum gases, liquefied

! R-phrases

12 Extremely flammable.

Special labelling for certain preparations

Without sufficient ventilation formation of explosive mixtures in use may be possible.

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.

Without sufficient ventilation formation of explosive mixtures in use may be possible.

Material Safety Data Sheet is available on request for professional users

National regulations

Restriction of occupation

no

Decree for case of interference/ remarks

not applicable

Technical instruction air remarks

not applicable

Water hazard class

1 german water pollution classification

VOC standard

VOC content -85 %

VOC value -560 g/L

16. OTHER INFORMATION

Training advice

Use the entries of this Material Safety Data Sheet

Recommend uses and restrictions

Observe use and care instructions

Sources of key data used

Material Safety Data Sheets of raw materials

Wording of the R-phrases specified in chapter 3 (not the classification of the formulation!)

R 11 Highly flammable.

R 12 Extremely flammable.