

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

### 1.1 Product identifier

· **Trade name:** *DINITROL 444 Zink Farbe Spray hell*

· **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
*No further relevant information available.*

· **Application of the substance / the preparation** *Paint*

### 1.3 Details of the supplier of the safety data sheet

· **Manufacturer/Supplier:**

*DINOL GmbH*

*Pyrmonter Str. 76*

*D-32676 Lügde*

*Tel: +49 5281 9829 80*

*Fax: +49 5281 9829 860*

*E-mail: msds@dinol.com*

· **Further information obtainable from:** *Research & Development*

· **1.4 Emergency telephone number:** *Giftnotruf Berlin +49(0)30 30686 790 Beratung in Deutsch und Englisch.*

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

· **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



*Xn; Harmful*

*R20/21: Harmful by inhalation and in contact with skin.*



*Xi; Irritant*

*R38: Irritating to skin.*



*F+; Extremely flammable*

*R12: Extremely flammable.*



*F; Flammable*

*R15: Contact with water liberates extremely flammable gases.*



*N; Dangerous for the environment*

*R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.*

· **Information concerning particular hazards for human and environment:**

*The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.*

*Warning! Pressurized container.*

· **Classification system:**

*The classification is according to the latest editions of the EU-lists, and extended by company and literature data.*

### 2.2 Label elements

· **Labelling according to EU guidelines:**

*The product has been marked in accordance with EU Directives / respective national laws.*

*The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.*

*The R and S phrases may be omitted if packaging contains no more than 0.125 litre.*

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**Trade name: DINITROL 444 Zink Farbe Spray hell**

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· **Code letter and hazard designation of product:**

Xn Harmful  
F+ Extremely flammable  
N Dangerous for the environment

· **Hazard-determining components of labelling:**

Xylene, mixed isomers, pure

· **Risk phrases:**

12 Extremely flammable.  
15 Contact with water liberates extremely flammable gases.  
20/21 Harmful by inhalation and in contact with skin.  
38 Irritating to skin.  
51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

· **Safety phrases:**

2 Keep out of the reach of children.  
16 Keep away from sources of ignition - No smoking.  
23 Do not breathe vapour/spray.  
29/56 Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.  
36/37 Wear suitable protective clothing and gloves.  
43 In case of fire, use sand, carbon dioxide or powdered extinguishing agent. Never use water.  
46 If swallowed, seek medical advice immediately and show this container or label.  
51 Use only in well-ventilated areas.

· **Special labelling of certain preparations:**

Contains 2-Butanone oxime. May produce an allergic reaction.  
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.  
Buildup of explosive mixtures possible without sufficient ventilation.

· **Classification in accordance with Directive 75/324/EEC: Extremely flammable**

· **2.3 Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.  
· **vPvB:** Not applicable.

**SECTION 3: Composition/information on ingredients**

· **3.2 Chemical characterization: Mixtures**

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

· **Dangerous components:**

CAS: 1330-20-7 EINECS: 215-535-7	Xylene, mixed isomers, pure ☒ Xn R20/21; ☒ Xi R38 R10 ⚠ Flam. Liq. 3, H226; ⚠ Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315	25-<50%
CAS: 74-98-6 EINECS: 200-827-9	Propane liquefied ⚠ F+ R12 ⚠ Flam. Gas 1, H220; ⚠ Press. Gas, H280	10-<25%

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CAS: 106-97-8 EINECS: 203-448-7	Butane, pure F+ R12 Flam. Gas 1, H220; Press. Gas, H280	10-<25%
CAS: 7429-90-5 EINECS: 231-072-3	Aluminium powder (stabilized) F R10-15 Flam. Sol. 1, H228; Water-react. 1, H260	5-<10%
CAS: 7440-66-6 EINECS: 231-175-3	Zinc powder - zinc dust (stabilized) N R50/53 Aquatic Acute 1, H400; Aquatic Chronic 1, H410	5-<10%
CAS: 64742-48-9 EINECS: 265-150-3	Naphtha (petroleum), hydrotreated heavy Xn R65 R10-66 Flam. Liq. 3, H226; Asp. Tox. 1, H304	1-<5%
CAS: 64742-95-6 EINECS: 265-199-0	Solvent naphtha (petroleum), light arom. Xn R65; Xi R37; N R51/53 R10-66-67 Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; STOT SE 3, H336	1-<5%
CAS: 100-41-4 EINECS: 202-849-4	Ethylbenzene Xn R20; F R11 Flam. Liq. 2, H225; Acute Tox. 4, H332	1-<5%
CAS: 96-29-7 EINECS: 202-496-6	2-Butanone oxime Xn R21-40; Xi R41; Xi R43 Carc. Cat. 3 Carc. 2, H351; Eye Dam. 1, H318; Acute Tox. 4, H312; Skin Sens. 1, H317	<1%

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

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General information:

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

#### After inhalation:

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist. In case of unconsciousness place patient stably in side position for transportation.

#### After skin contact:

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

#### After eye contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

#### After swallowing:

Seek medical treatment.

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

Headache

Dizziness

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

No further relevant information available.

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### **SECTION 5: Firefighting measures**

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** CO<sub>2</sub>, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:**  
Water  
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:** Mount respiratory protective device.
- **Additional information** Cool endangered receptacles with water spray.

### **SECTION 6: Accidental release measures**

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Keep away from ignition sources.  
Ensure adequate ventilation  
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:**  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.  
Do not flush with water or aqueous cleansing agents  
Absorb liquid components with liquid-binding material.
- **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.

### **SECTION 7: Handling and storage**

- **7.1 Precautions for safe handling**  
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.  
Pressurized 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 pressurized containers.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
Keep container tightly sealed.

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- Do not seal receptacle gas tight.  
Store in cool, dry conditions in well sealed receptacles.  
Protect from heat and direct sunlight.  
· **7.3 Specific end use(s)** No further relevant information available.

## SECTION 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:**

#### 1330-20-7 Xylene, mixed isomers, pure

WEL	Short-term value: 441 mg/m <sup>3</sup> , 100 ppm Long-term value: 220 mg/m <sup>3</sup> , 50 ppm Sk; BMGV
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#### 106-97-8 Butane, pure

WEL	Short-term value: 1810 mg/m <sup>3</sup> , 750 ppm Long-term value: 1450 mg/m <sup>3</sup> , 600 ppm Carc (if more than 0.1% of buta-1.3-diene)
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#### 100-41-4 Ethylbenzene

WEL	Short-term value: 552 mg/m <sup>3</sup> , 125 ppm Long-term value: 441 mg/m <sup>3</sup> , 100 ppm Sk
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- **Ingredients with biological limit values:**

#### 1330-20-7 Xylene, mixed isomers, pure

BMGV	650 mmol/mol creatinine Medium: urine Sampling time: post shift Parameter: methyl hippuric acid
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- **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.  
Do not inhale gases / fumes / aerosols.  
Avoid contact with the skin.  
Avoid close or long term contact with the skin.  
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

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· **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.

Fluorocarbon rubber (Viton)

· **Penetration time of glove material**

> 480 min.

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Not suitable are gloves made of the following materials:**

Natural rubber

Strong material gloves

· **Eye protection:**



Tightly sealed goggles

· **Body protection:** Protective work clothing

**SECTION 9: Physical and chemical properties**

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

· **General Information**

· **Appearance:**

· <b>Form:</b>	Aerosol
· <b>Colour:</b>	Silver grey
· <b>Odour:</b>	Aromatic
· <b>Odour threshold:</b>	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

· <b>Melting point/Melting range:</b>	Undetermined.
· <b>Boiling point/Boiling range:</b>	Not applicable, as aerosol.

· **Flash point:** < -20 °C (DIN 53213)

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

· **Ignition temperature:** 365 °C

· **Decomposition temperature:** Not determined.

· **Self-igniting:** Product is not selfigniting.

· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· **Explosion limits:**

· <b>Lower:</b>	1.0 Vol %
· <b>Upper:</b>	10.9 Vol %

· **Vapour pressure At 20 °C:** 4000 hPa

· **Density At 20 °C:** 0.84 g/cm<sup>3</sup> (DIN 51757)

· **Relative density** Not determined.

· **Vapour density** Not determined.

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· <b>Evaporation rate</b>	Not applicable.
· <b>Solubility in / Miscibility with water:</b>	Not miscible or difficult to mix.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>Organic solvents:</b>	75.0 %
<b>Solids content:</b>	25.0 % (DIN 53216)
· <b>9.2 Other information</b>	No further relevant information available.
· <b>VOC (EU):</b>	75.00 %
· <b>VOC (EU):</b>	632.0 g/l
· <b>VOCV:</b>	75.00 %

### **SECTION 10: Stability and reactivity**

- **10.1 Reactivity**
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** Contact with water releases flammable gases.
- **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

### **SECTION 11: Toxicological information**

- **11.1 Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values relevant for classification:**

**1330-20-7 Xylene, mixed isomers, pure**

Oral	LD50	8700 mg/kg (RAT)
Dermal	LD50	2000 mg/kg (RABBIT)
Inhalative	LC50/4 h	6350 mg/l (RAT)

**106-97-8 Butane, pure**

Inhalative	LC50/4 h	658 mg/l (rat)
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**64742-48-9 Naphtha (petroleum), hydrotreated heavy**

Oral	LD50	>5000 mg/kg (RAT)
Dermal	LD50	>3000 mg/kg (RAT)

**64742-95-6 Solvent naphtha (petroleum), light arom.**

Oral	LD50	>6800 mg/kg (RAT)
Dermal	LD50	>3400 mg/kg (RAT)
Inhalative	LC50/4 h	>10.2 mg/l (RAT)

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**100-41-4 Ethylbenzene**

Oral	LD50	3500 mg/kg (rat)
Dermal	LD50	17800 mg/kg (rbt)

**96-29-7 2-Butanone oxime**

Oral	LD50	2528 mg/kg (rat)
Dermal	LD50	200-2000 mg/kg (rat)
Inhalative	LC50/4 h	>10.5 mg/l (rat)
	LC50/96 h	>100 mg/l (Fish)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:  
Harmful  
Irritant

## SECTION 12: Ecological information

· **12.1 Toxicity**· **Aquatic toxicity:****96-29-7 2-Butanone oxime**

EC50/48 h	201 mg/l (DAPHNIA MAGNA)
IC50/72 h	11.8 mg/l (ALGAE)

- **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.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **Additional ecological information:**
- **General notes:**  
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water  
Do not allow product to reach ground water, water course or sewage system.  
Danger to drinking water if even small quantities leak into the ground.  
Also poisonous for fish and plankton in water bodies.  
Toxic for aquatic organisms
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

## SECTION 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.

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· **European waste catalogue**

16 00 00	WASTES NOT OTHERWISE SPECIFIED IN THE LIST
16 05 00	gases in pressure containers and discarded chemicals
16 05 04*	gases in pressure containers (including halons) containing dangerous substances
15 00 00	WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED
15 01 00	packaging (including separately collected municipal packaging waste)
15 01 10*	packaging containing residues of or contaminated by dangerous substances
08 00 00	WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS
08 01 00	wastes from MFSU and removal of paint and varnish
08 01 11*	waste paint and varnish containing organic solvents or other dangerous substances

· **Uncleaned packaging:**

· **Recommendation:** Disposal must be made according to official regulations.

**SECTION 14: Transport information**

· **14.1 UN-Number**

· **ADR, IMDG, IATA**

UN1950

· **14.2 UN proper shipping name**

· **ADR**

· **IMDG**

· **IATA**

1950 AEROSOLS, ENVIRONMENTALLY HAZARDOUS AEROSOLS (Zinc powder - zinc dust (stabilized), Solvent naphtha (petroleum), light arom.), MARINE POLLUTANT AEROSOLS, flammable

· **14.3 Transport hazard class(es)**

· **ADR**



· **Class**

· **Label**

2 5F Gases.

2.1

· **IMDG**



· **Class**

· **Label**

2.1

2.1

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· **IATA**



· **Class** 2.1  
· **Label** 2.1

· **14.4 Packing group**  
· **ADR, IMDG, IATA** Void

· **14.5 Environmental hazards:** Product contains environmentally hazardous substances: Zinc powder - zinc dust (stabilized)

· **Marine pollutant:** Yes  
Symbol (fish and tree)

· **Special marking (ADR):** Symbol (fish and tree)

· **14.6 Special precautions for user** Warning: Gases.

· **Danger code (Kemler):** -  
· **EMS Number:** F-D,S-U

· **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**

· **ADR**  
· **Limited quantities (LQ)** 1L  
· **Transport category** 2  
· **Tunnel restriction code** D

**SECTION 15: Regulatory information**

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

· **Labelling according to EU guidelines:**

The product has been marked in accordance with EU Directives / respective national laws.

The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.

The R and S phrases may be omitted if packaging contains no more than 0.125 litre.

· **Code letter and hazard designation of product:**

Xn Harmful  
F+ Extremely flammable  
N Dangerous for the environment

· **Hazard-determining components of labelling:**

Xylene, mixed isomers, pure

· **Risk phrases:**

12 Extremely flammable.  
15 Contact with water liberates extremely flammable gases.  
20/21 Harmful by inhalation and in contact with skin.  
38 Irritating to skin.  
51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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· **Safety phrases:**

- 2 Keep out of the reach of children.
- 16 Keep away from sources of ignition - No smoking.
- 23 Do not breathe vapour/spray.
- 29/56 Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.
- 36/37 Wear suitable protective clothing and gloves.
- 43 In case of fire, use sand, carbon dioxide or powdered extinguishing agent. Never use water.
- 46 If swallowed, seek medical advice immediately and show this container or label.
- 51 Use only in well-ventilated areas.

· **Special labelling of certain preparations:**

- Contains 2-Butanone oxime. May produce an allergic reaction.
- 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.
- Buildup of explosive mixtures possible without sufficient ventilation.

· **Classification in accordance with Directive 75/324/EEC: Extremely flammable**

· **National regulations:**

· **Technical instructions (air):**

Class	Share in %
I	0.1
NK	75.8

- **Waterhazard class:** Water hazard class 2 (Self-assessment): hazardous for water.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

**SECTION 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.
  - H228 Flammable solid.
  - H260 In contact with water releases flammable gases which may ignite spontaneously.
  - H280 Contains gas under pressure; may explode if heated.
  - H304 May be fatal if swallowed and enters airways.
  - H312 Harmful in contact with skin.
  - H315 Causes skin irritation.
  - H317 May cause an allergic skin reaction.
  - H318 Causes serious eye damage.
  - H332 Harmful if inhaled.
  - H336 May cause drowsiness or dizziness.
  - H351 Suspected of causing cancer.
  - H400 Very toxic to aquatic life.
  - H410 Very toxic to aquatic life with long lasting effects.
  - H411 Toxic to aquatic life with long lasting effects.
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- R10 Flammable.
  - R11 Highly flammable.
  - R12 Extremely flammable.

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**Trade name: DINITROL 444 Zink Farbe Spray hell**

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- R15 Contact with water liberates extremely flammable gases.  
R20 Harmful by inhalation.  
R20/21 Harmful by inhalation and in contact with skin.  
R21 Harmful in contact with skin.  
R37 Irritating to respiratory system.  
R38 Irritating to skin.  
R40 Limited evidence of a carcinogenic effect.  
R41 Risk of serious damage to eyes.  
R43 May cause sensitisation by skin contact.  
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
R65 Harmful: may cause lung damage if swallowed.  
R66 Repeated exposure may cause skin dryness or cracking.  
R67 Vapours may cause drowsiness and dizziness.

- **Department issuing MSDS:** Research & Development
- **Contact:** Kontakt: [msds@dinol.com](mailto:msds@dinol.com) oder Tel.: 0049 (0)5281 982 980
- **\* Data compared to the previous version altered.**