


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

- **1.1 Product identifier**
- **Trade name:** DINITROL 8450 2K UHS Hardener
- **Article number:** 14175B
- **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** Hardening agent/ Curing agent
- **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; Sensitising**
- **R42/43:** May cause sensitisation by inhalation and skin contact.
- **R10-66-67:** Flammable. Repeated exposure may cause skin dryness or cracking. Vapours may cause drowsiness and dizziness.
- **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.
At long or repeated contact with skin it may cause dermatitis due to the degreasing effect of the solvent.
Has a narcotizing effect.
- **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.
- **Code letter and hazard designation of product:**
Xn Harmful
- **Hazard-determining components of labelling:**
Polysozyanat
- **Risk phrases:**
10 Flammable.
42/43 May cause sensitisation by inhalation and skin contact.
66 Repeated exposure may cause skin dryness or cracking.
67 Vapours may cause drowsiness and dizziness.

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· **Safety phrases:**

- 2 Keep out of the reach of children.
- 23 Do not breathe vapour/spray.
- 24/25 Avoid contact with skin and eyes.
- 36/37 Wear suitable protective clothing and gloves.
- 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- 56 Dispose of this material and its container to hazardous or special waste collection point.

· **Special labelling of certain preparations:**

Contains isocyanates. See information supplied by the manufacturer

· **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:**

	Polyozyanat Xn R42/43 Resp. Sens. 1, H334; Skin Sens. 1, H317	50-<100%
CAS: 123-86-4 EINECS: 204-658-1	n-Butyl acetate R10-66-67 Flam. Liq. 3, H226; STOT SE 3, H336	25-<50%
CAS: 822-06-0 EINECS: 212-485-8	hexamethylene-di-isocyanate T R23; Xn R42/43; Xi R36/37/38 Acute Tox. 3, H331; Resp. Sens. 1, H334; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	<1%
CAS: 77-58-7 EINECS: 201-039-8	Dibutyltin dilaurate T R60-61-48/25; Xn R22-68; Xi R36; N R50/53 Acute Tox. 3, H301; Muta. 2, H341; Repr. 1A, H360; STOT RE 1, H372; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Eye Irrit. 2, H319	<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**

· **After inhalation:**

Supply fresh air and to be sure call for a doctor.

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.

· **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.

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- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** CO₂, 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:** No special measures required.
- **Additional information** Cool endangered receptacles with water spray.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
- **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.
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:**
Store away from oxidizing agents.
Store away from water.
- **Further information about storage conditions:** Keep container tightly sealed.
- **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.

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· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

123-86-4 n-Butyl acetate

WEL	Short-term value: 966 mg/m ³ , 200 ppm
	Long-term value: 724 mg/m ³ , 150 ppm

822-06-0 hexamethylene-di-isocyanate

WEL	Short-term value: 0.07 mg/m ³
	Long-term value: 0.02 mg/m ³
	Sen; as -NCO

· **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.

· **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

· **Material of gloves**

Butyl rubber

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.

· **Penetration time of glove material**

> 480 min.

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

· **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:**

Form: Liquid

Colour: Clear

· **Odour:** Characteristic

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· Odour threshold:	Not determined.
· pH-value:	Not determined.
· Change in condition Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.
· Flash point:	> 23 °C (DIN 53213)
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	
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: Lower:	Not determined.
Upper:	Not determined.
· Vapour pressure:	Not determined.
· Density At 20 °C:	1 g/cm ³ (DIN 51757)
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity: Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content: Organic solvents:	48.1 %
· 9.2 Other information	No further relevant information available.

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** No dangerous reactions known.
- **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

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SECTION 11: Toxicological information

· **11.1 Information on toxicological effects**

· **Acute toxicity:**

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

123-86-4 n-Butyl acetate

Oral	LD50	14000 mg/kg (rat)
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Inhalative	LC50/4 h	>21.0 mg/l (rat)
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77-58-7 Dibutyltin dilaurate

Oral	LD50	175 mg/kg (rat)
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· **Primary irritant effect:**

· **on the skin:** No irritant effect.

· **on the eye:** No irritating effect.

· **Sensitization:**

Sensitization possible through inhalation.

Sensitization possible through skin contact.

· **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:** No further relevant information available.

· **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.

· **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.

· **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.

· **European waste catalogue**

08 00 00	WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS
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08 05 00	wastes not otherwise specified in 08
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08 05 01*	waste isocyanates
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

- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

· 14.1 UN-Number · ADR, IMDG, IATA	UN1263
· 14.2 UN proper shipping name · ADR · IMDG, IATA	1263 PAINT RELATED MATERIAL, special provision 640E PAINT RELATED MATERIAL
· 14.3 Transport hazard class(es) · ADR, IMDG, IATA · Class	3 Flammable liquids.
· 14.4 Packing group · ADR, IMDG, IATA	III
· 14.5 Environmental hazards: · Marine pollutant:	No
· 14.6 Special precautions for user · Danger code (Kemler): · EMS Number:	Warning: Flammable liquids. 3 F-E,S-E
· 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) · Transport category · Tunnel restriction code	5L 3 D/E

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

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

Polysozyanat

· **Risk phrases:**

- 10 Flammable.
42/43 May cause sensitisation by inhalation and skin contact.
66 Repeated exposure may cause skin dryness or cracking.
67 Vapours may cause drowsiness and dizziness.

· **Safety phrases:**

- 2 Keep out of the reach of children.
23 Do not breathe vapour/spray.
24/25 Avoid contact with skin and eyes.
36/37 Wear suitable protective clothing and gloves.
45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
56 Dispose of this material and its container to hazardous or special waste collection point.

· **Special labelling of certain preparations:**

Contains isocyanates. See information supplied by the manufacturer

· **National regulations:**

· **Technical instructions (air):**

Class	Share in %
I	0.2
NK	48.1

- **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**

- H226 Flammable liquid and vapour.
H301 Toxic if swallowed.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H341 Suspected of causing genetic defects.
H360 May damage fertility or the unborn child.
H372 Causes damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
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- R10 Flammable.
R22 Harmful if swallowed.
R23 Toxic by inhalation.
R36 Irritating to eyes.
R36/37/38 Irritating to eyes, respiratory system and skin.
R42/43 May cause sensitisation by inhalation and skin contact.

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- R48/25 *Toxic: danger of serious damage to health by prolonged exposure if swallowed.*
- R50/53 *Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.*
- R60 *May impair fertility.*
- R61 *May cause harm to the unborn child.*
- R66 *Repeated exposure may cause skin dryness or cracking.*
- R67 *Vapours may cause drowsiness and dizziness.*
- R68 *Possible risk of irreversible effects.*

- **Department issuing MSDS:** Research & Development
- **Contact:** Kontakt: msds@dinol.com oder Tel.: 0049 (0)5281 982 980