







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

- **Product identifier**
- **Trade name** *NEUKADUR hardener ISO 2*
- **Utilization of the substance of the formulation:** *Hardener for Polyole*
- **Relevant identified uses of the substance or mixture and uses advised against**
- **Sector of Use** *SU12 Manufacture of plastics products, including compounding and conversion*
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
*ALTROPOL KUNSTSTOFF GmbH
Rudolf-Diesel-Str 9 - 13
D-23617 Stockelsdorf
Tel. +49 (0)451-49960-0
Fax. +49 (0)451-49960-20
e-mail: info@altropol.de*
- **Further information obtainable from:** *environment protection department*
- **Emergency telephone number:**
*During normal opening times (7 am - 5 pm)
phone : +49 (0)451-49960-0 or +49 (0)176-10232577*

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
-  *Xn; Harmful*
R20-40-48/20: Harmful by inhalation. Limited evidence of a carcinogenic effect. Harmful: danger of serious damage to health by prolonged exposure through inhalation.
-  *Xn; Sensitising*
R42/43: May cause sensitisation by inhalation and skin contact.
-  *Xi; Irritant*
R36/37/38: Irritating to eyes, respiratory system and skin.
-  *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.
- **Classification system:**
The classification is according to the latest editions of the EU-lists, and extended by company and literature data.
- **Label elements**
- **Labelling according to EU guidelines:**
The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.
- **Code letter and hazard designation of product:**
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*Xn Harmful
N Dangerous for the environment*

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

4,4'-Diphenyl-Methan-Diisocyanat.oligomere






· **Risk phrases:**

- 20 Harmful by inhalation.
 36/37/38 Irritating to eyes, respiratory system and skin.
 40 Limited evidence of a carcinogenic effect.
 42/43 May cause sensitisation by inhalation and skin contact.
 48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

· **Safety phrases:**

- 9 Keep container in a well-ventilated place.
 23 Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).
 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 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).
 57 Use appropriate container to avoid environmental contamination.
 60 This material and its container must be disposed of as hazardous waste.

· **Other hazards**· **Results of PBT and vPvB assessment**· **PBT:** Not applicable.· **vPvB:** Not applicable.* **3 Composition/information on ingredients**· **Chemical characterization: Mixtures**· **Description:** Mixture of substances listed below with nonhazardous additions.· **Dangerous components:**

25686-28-6	4,4'-Diphenyl-Methan-Diisocyanat.oligomere  Xn R20-40-48/20;  Xn R42/43;  Xi R36/37/38 Carc. Cat. 3	50 - 75%
38640-62-9	Diisopropylnaphthalene  Xn R65;  N R51/53	25 - 50%

· **Additional information:** For the wording of the listed risk phrases refer to section 16.**4 First aid measures**· **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 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.· **After eye contact:**

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

· **After swallowing:** If symptoms persist consult doctor.· **Information for doctor:**· **Most important symptoms and effects, both acute and delayed** No further relevant information available.· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

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5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:**
 - Water with full jet
 - Water
- **Special hazards arising from the substance or mixture**
 - Nitrogen oxides (NO_x)
 - Carbon monoxide (CO)
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
 - cover accouterment bear , exposed person remove
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **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.
- **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.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
 - provide for best ventilation in the work space
 - Prevent formation of aerosols.
- **Information about fire - and explosion protection:**
 - Protect against electrostatic charges.
 - Keep ignition sources away - Do not smoke.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
 - Keep container tightly closed and dry and storage in a good ventilated room.
- Storage temperature: 15 - 25 °C.
- **Information about storage in one common storage facility:**
 - Store away from water.
 - Store away from foodstuffs.
- **Further information about storage conditions:**
 - Keep container tightly sealed.
 - Protect from humidity and water.
- **Storage class:** 10
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.

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

25686-28-6 4,4'-Diphenyl-Methan-Diisocyanat.oligomere

MAK (Germany)	Short-term value: 0.05 mg/m ³ Long-term value: 0.05 mg/m ³
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· **Additional information:** The lists valid during the making were used as basis.· **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.

Avoid contact with the eyes and skin.

· **Respiratory protection:**

In inadequately ventilated places and during spraying respirator

necessary. Recommended to be fresh-air mask or filter combination for short-term work

A2-P2

Unless the exposure levels below the established exposure limits remain is no respiratory protection is required. Where exposures exceed the established exposure limits, respiratory protection to the material and the degree of exposure is recommended accordingly.

A respiratory protection unit offers the same eye and face protection.

The cutting, grinding or sanding of parts after curing can result in respirable dust. Wearing appropriate for this dust respirators may be necessary.



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.

Filter A/P2

· **Protection of hands:**

Preventive skin protection (3-point program) required



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **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.

· **Penetration time of glove material**

Suitable materials for protective gloves, EN 374-3:

Polychloroprene - CR: thickness > = 0.5 mm, breakthrough time > = 480 min.

NBR - NBR: thickness > = 0,35 mm, Breakthrough time > = 480 min.

Butyl rubber - IIR: thickness > = 0.5 mm, breakthrough time > = 480 min.

Fluorine rubber - FKM: thickness > = 0.4 mm; breakthrough time > = 480 min.

Recommendation: Dispose of contaminated gloves ..

The exact break trough 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:** Strong material gloves

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· **Eye protection:**

Tightly sealed goggles

· **Body protection:** Protective work clothing* **9 Physical and chemical properties**· **Information on basic physical and chemical properties**· **General Information**· **Appearance:**

· Form:	Fluid
· Colour:	According to product specification
· Odour:	Characteristic

· **Change in condition**

· **Melting point/Melting range:** Undetermined.
 · **Boiling point/Boiling range:** 208 °C

· **Flash point:** 212 °C· **Ignition temperature:** 520 °C· **Self-igniting:** Product is not selfigniting.· **Danger of explosion:** Product does not present an explosion hazard.· **Vapour pressure at 43 °C:** < 0.00010 mbar· **Density at 20 °C:** 1.23 g/cm³· **Solubility in / Miscibility with water:** reacts with water forming CO₂, risk of bursting· **Viscosity:**· **Dynamic at 20 °C:** 220 mPas· **Solvent content:**

· **Organic solvents:** 0.0 %
 · **VOC (EC)** 0.00 %

· **Other information** No further relevant information available.**10 Stability and reactivity**· **Reactivity**· **Chemical stability**· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.· **Possibility of hazardous reactions**Exothermic reaction with amines and alcohols; reacts with water forming CO₂, in closed containers risk of bursting owing to increase of pressure.· **Conditions to avoid** No further relevant information available.· **Incompatible materials:** water , alcohol , amine , base and acid· **Hazardous decomposition products:** Hydrogen cyanide (prussic acid)

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11 Toxicological information

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

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

25686-28-6 4,4'-Diphenyl-Methan-Diisocyanat.oligomere

Oral LD50 > 5000 mg/kg (Ratte)

38640-62-9 Diisopropyl-naphthalene

Oral LD50 > 4000 mg/kg (Ratte)

Dermal LD50 > 4000 mg/kg (Ratte)

Inhalative LC50/4 h > 5.6 mg/l (Ratte)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** 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

12 Ecological information

- **Toxicity**

- **Aquatic toxicity:**

25686-28-6 4,4'-Diphenyl-Methan-Diisocyanat.oligomere

EC50 (72 h) > 100 mg/l (B)

> 1000 mg/l (D)

LC50 (96 h) > 1000 mg/l (F)

- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
Must be specially treated adhering to official regulations.
- **European waste catalogue** 08 05 01* Isocyanatabfälle



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- **Uncleaned packaging:**
- **Recommendation:**
The empty containers may not be disposed of unless the adhesive to the container walls
has been removed.
- Disposal according to official regulations

14 Transport information

· UN-Number · ADR, IMDG, IATA	UN3082
· UN proper shipping name · ADR · IMDG · IATA	3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Diisopropylnaphthalene) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Diisopropylnaphthalene), MARINE POLLUTANT ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Diisopropylnaphthalene)
· Transport hazard class(es) · ADR	
	
· Class · Label	9 (M6) Miscellaneous dangerous substances and articles. 9
· IMDG, IATA	
	
· Class · Label	9 Miscellaneous dangerous substances and articles. 9
· Packing group · ADR, IMDG, IATA	III
· Environmental hazards: · Marine pollutant: · Special marking (ADR): · Special marking (IATA):	Product contains environmentally hazardous substances: Diisopropylnaphthalene Yes Symbol (fish and tree) Symbol (fish and tree) Symbol (fish and tree)
· Special precautions for user · Danger code (Kemler): · EMS Number:	Warning: Miscellaneous dangerous substances and articles. 90 F-A,S-F
· 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	5L 3

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· Tunnel restriction code

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15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Labelling according to EU guidelines:**
The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.

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



Xn Harmful
N Dangerous for the environment

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

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- **Risk phrases:**

20 Harmful by inhalation.
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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).
57 Use appropriate container to avoid environmental contamination.
60 This material and its container must be disposed of as hazardous waste.

- **National regulations:**

- **Waterhazard class:** Water hazard class 3 (Self-assessment): extremely hazardous for water.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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**

R20 Harmful by inhalation.
R36/37/38 Irritating to eyes, respiratory system and skin.
R40 Limited evidence of a carcinogenic effect.
R42/43 May cause sensitisation by inhalation and skin contact.
R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65 Harmful: may cause lung damage if swallowed.

- **Department issuing MSDS:** environment protection department

- **Contact:**

Herr Karasmann Tel. +49 (0)451-49960-0
Herr Grützmacher Tel. +49 (0)2056-25863-6

- *** Data compared to the previous version altered.**