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## PELPREN R-R

### BICOMPONENT POLYURETHANE ADHESIVE FOR SMALL QUICK REPAIRS

Bicomponent polyurethane adhesive for the rapid adhesion of flooring or wood elements on concrete sub-floors or non-absorbent flooring.

#### TECHNICAL CHARACTERISTICS:

- Bicomponent
- Suitable for quick repairs or fitting wooden elements (e.g. stairs)
- Excellent adhesive power
- Water and solvent-free

#### WHERE IT CAN BE APPLIED:

- To repair wood panels
- To lay wooden elements
- To install steps, staircases, wooden platforms etc.

#### DO NOT USE:

- On oily bases
- On bases with loose parts or not perfectly clean

#### SPECIFIC CHARACTERISTICS (normal conditions):

Colour:	Thick paste - comp. A	Brown liquid - comp. B
Mixing ratio (A: B):	9: 1	
Brookfield viscosity at 20°C (mPa*s):	120,000 - 150,000 Comp. A	40 - 60 Comp. B
Brookfield viscosity at 20 °C, catalysed product (mPa*s):	40,000 - 60000	
Application temperature (°C):	+10 to 30	
Application time (min):	5 - 15	
Final setting (hours):	1 - 2	
Application/Equipment:	Toothed spatula	
Equipment cleaning:	GR7, before the product sets	
Product removal:	GR7, before the product sets	
Product removal:	12	
Disposal information:	Dispose of in compliance with the local and national regulations in force	
Packaging:	Packaging: 1 kg packs (A+B)	
Usage limitations:	Apply on clean surfaces free from loose parts Do not let the product come into contact with varnished surfaces Always use adequate individual protection systems. Always consult the technical and safety information sheets	

#### PREPARING THE SUBSTRATE:

Make sure the surface is clean and free of oil, wax and loose parts. Any dust residue, loose fragments or residue of incompatible products must be removed. In case of application on non-porous surfaces abrade the surface with sandpaper. When in doubt, it is advisable to test the product on a small area. Concrete dusty sub-floors or sub-floors with moisture must be treated beforehand with our primers to optimise adhesion of the product.

#### APPLICATION:

Pour component B into the container of component A and mix thoroughly until an even, uniform paste is obtained. This paste must be spread on the least porous surface and applied evenly with a toothed spatula. The amount to apply will vary depending on the surface to be bonded. Carefully press the materials to be fixed onto the surface and, where necessary, use wedges or adhesive tape during the initial setting phase of the product.

Always use suitable personal protective equipment. Always consult the product's technical and safety information sheets before use.

#### HAZARD PICTOGRAMS:

Component A

--      --      --

Component B





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PELPREN RR comp. A

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## Safety data sheet

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

#### 1.1. Product identifier.

Code: RRA  
Product name: PELPREN RR comp. A

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against.

Intended use: Two-component, fast-curing polyurethane adhesive for wooden floors.

#### For professional use.

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

Name: Adesiv s.r.l.  
Full address: Via Delle Rose, 31  
District and Country: 36061 Bassano del Grappa (Vicenza)  
Italia  
Tel. +39 0424 566406  
Fax. +39 0424 566473

e-mail address of the competent person.

responsible for the Safety Data Sheet. laboratorio@adesiv.it

#### 1.4. Emergency telephone number.

For urgent inquiries refer to: Poison centres (24/24 h)  
Italy: +39 02 6610 1029  
Germany: +49 30 192 40  
UK: +44 844 892 0111  
France: +33 (0) 1 40 05 48 48  
Spain: +34 91 562 0420  
Russia: +7 495 628

### SECTION 2. Hazards identification.

#### 2.1. Classification of the substance or mixture.

The product is not classified as hazardous pursuant to the provisions set forth in EC Regulation 1272/2008 (CLP). However, since the product contains hazardous substances in concentrations such as to be declared in section no. 3, it requires a safety data sheet with appropriate information, compliant to EC Regulation 1907/2006 and subsequent amendments.  
Hazard classification and indication:

#### 2.2. Label elements.

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms: --



Signal words: --

Hazard statements:

**EUH210** Safety data sheet available on request.  
**EUH208** Contains:  
N,N,4-trimethylpiperazine-1-ethylamine  
  
May produce an allergic reaction.

Precautionary statements:

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### 2.3. Other hazards.

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

## SECTION 3. Composition/information on ingredients.

### 3.2. Mixtures.

Contains:

The full wording of hazard (H) phrases is given in section 16 of the sheet.

Identification.	Concentration, %	Classification 1272/2008 (CLP).	SCLs
<b>N,N,4-trimethylpiperazine-1-ethylamine</b>			
CAS. 104-19-8	0,05 – 0,15	Acute Tox. 3 H311, Acute Tox. 4 H302, Skin Corr. 1B H314, Skin Sens. 1 H317, Aquatic Chronic 3 H412	Not applicable.
EC. 203-183-7			
INDEX. -			

## SECTION 4. First aid measures.

### 4.1. Description of first aid measures.

Not specifically necessary. Observance of good industrial hygiene is recommended.

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

No episodes of damage to health ascribable to the product have been reported.

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

Information not available.

## SECTION 5. Firefighting measures.



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### 5.1. Extinguishing media.

#### SUITABLE EXTINGUISHING EQUIPMENT

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

#### UNSUITABLE EXTINGUISHING EQUIPMENT

None in particular.

### 5.2. Special hazards arising from the substance or mixture.

#### HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Do not breathe combustion products.

### 5.3. Advice for firefighters.

#### GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

#### SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

## SECTION 6. Accidental release measures.

### 6.1. Personal precautions, protective equipment and emergency procedures.

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

### 6.2. Environmental precautions.

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

### 6.3. Methods and material for containment and cleaning up.

Collect the leaked product into a suitable container. If the product is flammable, use explosion-proof equipment. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

### 6.4. Reference to other sections.

Any information on personal protection and disposal is given in sections 8 and 13.

## SECTION 7. Handling and storage.

### 7.1. Precautions for safe handling.

Before handling the product, consult all the other sections of this material safety data sheet. Avoid leakage of the product into the environment. Do not eat, drink or smoke during use.

### 7.2. Conditions for safe storage, including any incompatibilities.

Keep the product in clearly labelled containers. Keep containers away from any incompatible materials, see section 10 for details.



### 7.3. Specific end use(s).

Information not available.

## SECTION 8. Exposure controls/personal protection.

### 8.1. Control parameters.

Information not available.

### 8.2. Exposure controls.

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration. Personal protective equipment must be CE marked, showing that it complies with applicable standards.

#### HAND PROTECTION

Protect hands with category III work gloves (see standard EN 374).

The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

#### SKIN PROTECTION

Wear category I professional long-sleeved overalls and safety footwear (see Directive 89/686/EEC and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

#### EYE PROTECTION

Wear airtight protective goggles (see standard EN 166).

#### RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, use a mask with a type B filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

#### ENVIRONMENTAL EXPOSURE CONTROLS.

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

## SECTION 9. Physical and chemical properties.

### 9.1. Information on basic physical and chemical properties.

Appearance	paste
Colour	beige
Odour	Sweet, faint
Odour threshold.	Not available.
pH.	Not available.
Melting point / freezing point.	Not available.
Initial boiling point.	Not available.
Boiling range.	Not available.



Flash point.	> 60 °C.
Evaporation Rate	Not available.
Flammability of solids and gases	Not available.
Lower inflammability limit.	Not available.
Upper inflammability limit.	Not available.
Lower explosive limit.	Not available.
Upper explosive limit.	Not available.
Vapour pressure.	Not available.
Vapour density	Not available.
Relative density.	Not available.
Solubility	Not available.
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature.	Not available.
Decomposition temperature.	Not available.
Viscosity	30000 – 50000 mPa*s (#7, 20 rpm), 20°C.
Explosive properties	Not available.
Oxidising properties	Not available.

## 9.2. Other information.

Information not available.

## SECTION 10. Stability and reactivity.

### 10.1. Reactivity.

There are no particular risks of reaction with other substances in normal conditions of use.

### 10.2. Chemical stability.

The product is stable in normal conditions of use and storage.

### 10.3. Possibility of hazardous reactions.

No hazardous reactions are foreseeable in normal conditions of use and storage.

### 10.4. Conditions to avoid.

None in particular. However the usual precautions used for chemical products should be respected.

### 10.5. Incompatible materials.

Information not available.

### 10.6. Hazardous decomposition products.

Information not available.

## SECTION 11. Toxicological information.

### 11.1. Information on toxicological effects.

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.

It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

**ACUTE TOXICITY.**

LC50 (Inhalation - vapours) of the mixture:> 20 mg/l

LC50 (Inhalation - mists / powders) of the mixture:Not classified (no significant component).

LD50 (Oral) of the mixture:Not classified (no significant component).

LD50 (Dermal) of the mixture:>2000 mg/kg

N,N,4-trimethylpiperazine-1-ethylamine

LD50 (Oral) 677 mg/kg rat

LD50 (Dermal) 448 mg/kg rabbit

**SKIN CORROSION / IRRITATION.**

Does not meet the classification criteria for this hazard class.

**SERIOUS EYE DAMAGE / IRRITATION.**

Does not meet the classification criteria for this hazard class.

**RESPIRATORY OR SKIN SENSITISATION.**

Does not meet the classification criteria for this hazard class.

**GERM CELL MUTAGENICITY.**

Does not meet the classification criteria for this hazard class.

**CARCINOGENICITY.**

Does not meet the classification criteria for this hazard class.

**REPRODUCTIVE TOXICITY.**

Does not meet the classification criteria for this hazard class.

**STOT - SINGLE EXPOSURE.**

Does not meet the classification criteria for this hazard class.

**STOT - REPEATED EXPOSURE.**

Does not meet the classification criteria for this hazard class.

**ASPIRATION HAZARD.**

Does not meet the classification criteria for this hazard class.

**SECTION 12. Ecological information.****12.1. Toxicity.**

No specific data are available for this product. Handle it according to good working practices. Avoid littering. Do not contaminate soil and waterways. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation. Please take all the proper measures to reduce harmful effects on aquifers.

N,N,4-trimethylpiperazine-1-ethylamine

EC50 - for Crustacea. 39 mg/l/48h Daphnia sp.

EC50 - for Algae / Aquatic Plants. 20 mg/l/72h

**12.2. Persistence and degradability.**

Information not available.

**12.3. Bioaccumulative potential.**

Information not available.

**12.4. Mobility in soil.**

Information not available.





**12.5. Results of PBT and vPvB assessment.**

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

**12.6. Other adverse effects.**

Information not available.

**SECTION 13. Disposal considerations.**

**13.1. Waste treatment methods.**

Reuse, when possible. Neat product residues should be considered special non-hazardous waste.  
Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.  
CONTAMINATED PACKAGING  
Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

**SECTION 14. Transport information.**

The product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

**14.1. UN number.**

Not applicable.

**14.2. UN proper shipping name.**

Not applicable.

**14.3. Transport hazard class(es).**

Not applicable.

**14.4. Packing group.**

Not applicable.

**14.5. Environmental hazards.**

Not applicable.

**14.6. Special precautions for user.**

Not applicable.

**14.7. Transport in bulk according to Annex II of Marpol and the IBC Code.**

Information not relevant.

**SECTION 15. Regulatory information.**



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

Seveso Category - Directive 2012/18/EC: None.

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006.

None.

Substances in Candidate List (Art. 59 REACH).

On the basis of available data, the product does not contain any SVHC in percentage greater than 0,1%.

Substances subject to authorisation (Annex XIV REACH).

None.

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None.

Substances subject to the Rotterdam Convention:

None.

Substances subject to the Stockholm Convention:

None.

Healthcare controls.

Information not available.

**15.2. Chemical safety assessment.**

No chemical safety assessment has been processed for the mixture and the substances it contains.

**SECTION 16. Other information.**

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

<b>Acute Tox. 3</b>	Acute toxicity, category 3
<b>Acute Tox. 4</b>	Acute toxicity, category 4
<b>Skin Corr. 1B</b>	Skin corrosion, category 1B
<b>Skin Sens. 1</b>	Skin sensitization, category 1
<b>Aquatic Chronic 3</b>	Hazardous to the aquatic environment, chronic toxicity, category 3
<b>H311</b>	Toxic in contact with skin.
<b>H302</b>	Harmful if swallowed.
<b>H314</b>	Causes severe skin burns and eye damage.
<b>H317</b>	May cause an allergic skin reaction.
<b>H412</b>	Harmful to aquatic life with long lasting effects.



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**EUH210** Safety data sheet available on request.

**LEGEND:**

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

**GENERAL BIBLIOGRAPHY**

1. Regulation (EU) 1907/2006 (REACH) of the European Parliament
  2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
  3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
  4. Regulation (EU) 2015/830 of the European Parliament
  5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
  6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
  7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
  8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
  9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
  10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
- The Merck Index. - 10th Edition
  - Handling Chemical Safety
  - INRS - Fiche Toxicologique (toxicological sheet)
  - Patty - Industrial Hygiene and Toxicology
  - N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
  - ECHA website

**Note for users:**

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.



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## Safety data sheet

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

#### 1.1. Product identifier.

Code: RRB  
Product name: PELPREN RR comp B

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against.

Intended use: Induritore per PELPREN RR.

#### For professional use.

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

Name: Adesiv s.r.l.  
Full address: Via Delle Rose, 31  
District and Country: 36061 Bassano del Grappa (Vicenza)  
Italia  
Tel. +39 0424 566406  
Fax. +39 0424 566473

e-mail address of the competent person.  
responsible for the Safety Data Sheet.

laboratorio@adesiv.it

#### 1.4. Emergency telephone number.

For urgent inquiries refer to.

Poison centres (24/24 h)

Italy: +39 02 6610 1029  
Germany: +49 30 192 40  
UK: +44 844 892 0111  
France: +33 (0) 1 40 05 48 48  
Spain: +34 91 562 0420  
Russia: +7 495 628

### SECTION 2. Hazards identification.

#### 2.1. Classification of the substance or mixture.

The product is classified as hazardous pursuant to the provisions set forth in EC Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of EC Regulation 1907/2006 and subsequent amendments. Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

#### Hazard classification and indication:

Carcinogenicity, category 2	H351	Suspected of causing cancer.
Acute toxicity, category 4	H332	Harmful if inhaled.
Specific target organ toxicity - repeated exposure, category 2	H373	May cause damage to organs through prolonged or repeated exposure.
Eye irritation, category 2	H319	Causes serious eye irritation.
Skin irritation, category 2	H315	Causes skin irritation.
Specific target organ toxicity - single exposure, category 3	H335	May cause respiratory irritation.
Respiratory sensitization, category 1	H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitization, category 1	H317	May cause an allergic skin reaction.



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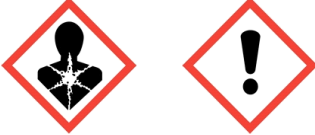
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## 2.2. Label elements.

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:



Signal words: Danger

Hazard statements:

H351	Suspected of causing cancer.
H332	Harmful if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
EUH204	Contains isocyanates. May produce an allergic reaction.

Precautionary statements:

P201	Obtain special instructions before use.
P280	Wear protective gloves / clothing and eye / face protection.
P284	[In case of inadequate ventilation] wear respiratory protection.
P304+P340	IF INHALED: remove person to fresh air and keep comfortable for breathing.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.

**Contains:** 4,4'-methylenediphenyl diisocyanate  
Methylenediphenyl diisocyanate, isomers and analogues  
Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate / methylene diphenyl diisocyanate

## 2.3. Other hazards.

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

## SECTION 3. Composition/information on ingredients.

### 3.2. Mixtures.

Contains:

The full wording of hazard (H) phrases is given in section 16 of the sheet.

Identification.	Concentration, %	Classification 1272/2008 (CLP).	SCLs
<b>Methylenediphenyl diisocyanate, isomers and analogues</b> CAS. 9016-87-9	30 - 60	Carc. 2 H351, Acute Tox. 4 H332, STOT RE 2 H373, Eye	Not applicable.



Irrit. 2 H319, Skin Irrit. 2  
H315, STOT SE 3 H335,  
Resp. Sens. 1 H334, Skin  
Sens. 1 H317

EC. -

INDEX. 615-005-00-9

**Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate / methylene diphenyl diisocyanate**

CAS. -

30 - 60

Carc. 2 H351, Acute Tox. 4  
H332, STOT RE 2 H373, Eye  
Irrit. 2 H319, Skin Irrit. 2  
H315, STOT SE 3 H335,  
Resp. Sens. 1 H334, Skin  
Sens. 1 H317

Not applicable.

EC. 905-806-4

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Reg. no. 01-2119457015-45-XXXX

**4,4'-methylenediphenyl diisocyanate**

CAS. 101-68-8

15 - 30

Carc. 2 H351, Acute Tox. 4  
H332, STOT RE 2 H373, Eye  
Irrit. 2 H319, Skin Irrit. 2  
H315, STOT SE 3 H335,  
Resp. Sens. 1 H334, Skin  
Sens. 1 H317

Eye Irrit. 2; H319: C ≥ 5 %  
Skin Irrit. 2; H315: C ≥ 5 %  
Resp. Sens. 1; H334: C ≥ 0,1 %  
STOT SE 3; H335: C ≥ 5 %

EC. 202-966-0

INDEX. 615-005-00-9

Reg. no. 01-2119457014-47-XXXX

## SECTION 4. First aid measures.

### 4.1. Description of first aid measures.

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.

SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention immediately. Wash contaminated clothing before using it again.

INHALATION: Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately.

INGESTION: Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorised by a doctor.

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

Specific information on symptoms and effects caused by the product are unknown.

For symptoms and effects caused by the contained substances, see chap. 11.

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

Information not available.

## SECTION 5. Firefighting measures.

### 5.1. Extinguishing media.

SUITABLE EXTINGUISHING EQUIPMENT

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

**PELPREN RR comp B****UNSUITABLE EXTINGUISHING EQUIPMENT**

None in particular.

**5.2. Special hazards arising from the substance or mixture.****HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE**

Do not breathe combustion products.

**5.3. Advice for firefighters.****GENERAL INFORMATION**

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

**SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS**

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

**SECTION 6. Accidental release measures.****6.1. Personal precautions, protective equipment and emergency procedures.**

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

**6.2. Environmental precautions.**

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

**6.3. Methods and material for containment and cleaning up.**

Collect the leaked product into a suitable container. If the product is flammable, use explosion-proof equipment. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

**6.4. Reference to other sections.**

Any information on personal protection and disposal is given in sections 8 and 13.

**SECTION 7. Handling and storage.****7.1. Precautions for safe handling.**

Before handling the product, consult all the other sections of this material safety data sheet. Avoid leakage of the product into the environment. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat.

**7.2. Conditions for safe storage, including any incompatibilities.**

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Keep containers away from any incompatible materials, see section 10 for details.

**7.3. Specific end use(s).**

Information not available.

**SECTION 8. Exposure controls/personal protection.****8.1. Control parameters.**

## Regulatory References:

DEU	Deutschland	MAK-und BAT-Werte-Liste 2012
DNK	Danmark	Graensevaerdier per stoffer og materialer
ESP	España	INSHT - Límites de exposición profesional para agentes químicos en España 2015
FRA	France	JORF n°0109 du 10 mai 2012 page 8773 texte n° 102
HUN	Magyarország	50/2011. (XII. 22.) NGM rendelet a munkahelyek kémiai biztonságáról
POL	Polska	ROZPORZĄDZENIE MINISTRA PRACY I POLITYKI SPOŁECZNEJ z dnia 16 grudnia 2011r

**Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate / methylene diphenyl diisocyanate**

Predicted no-effect concentration - PNEC.

Normal value in fresh water	1	mg/l
Normal value in marine water	0,1	mg/l
Normal value of STP microorganisms	1	mg/l
Normal value for the terrestrial compartment	1	mg/kg

**Health - Derived no-effect level - DNEL / DMEL**

Route of exposure	Effects on consumers.			Effects on workers				
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral.		20 mg/kg bw/d						
Inhalation.	0,05 mg/m3	0,05 mg/m3	0,025 mg/m3	0,025 mg/m3	0,1 mg/m3	0,1 mg/m3	0,05 mg/m3	0,05 mg/m3
Skin.	17,2 mg/cm2	25 mg/kg bw/d			28,7 mg/cm2			

**4,4'-methylenediphenyl diisocyanate****Threshold Limit Value.**

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
AGW	DEU	0,05		0,05	
TLV	DNK	0,05	0,005	0,1	0,01
VLA	ESP	0,052	0,005		
VLEP	FRA	0,1	0,01	0,2	0,02
AK	HUN	0,05		0,05	
NDS	POL	0,05		0,2	

Predicted no-effect concentration - PNEC.

Normal value in fresh water	1	mg/l
Normal value in marine water	0,1	mg/l
Normal value for water, intermittent release	10	mg/l
Normal value of STP microorganisms	1	mg/l
Normal value for the terrestrial compartment	1	mg/kg/d

**Health - Derived no-effect level - DNEL / DMEL**

Route of exposure	Effects on consumers.			Effects on workers				
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral.		20 mg/kg						
Inhalation.	0,05 mg/m3	0,05 mg/m3	0,025 mg/m3	0,025 mg/m3	0,1 mg/m3	0,1 mg/m3	0,05 mg/m3	0,05 mg/m3
Skin.	17,2 mg/cm2	25 mg/kg bw			28,7 mg/cm2	50 mg/kg bw		



**PELPREN RR comp B**

## Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.

VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

**8.2. Exposure controls.**

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration. Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

Exposure levels must be kept as low as possible to avoid significant build-up in the organism. Manage personal protective equipment so as to guarantee maximum protection (e.g. reduction in replacement times).

**HAND PROTECTION**

Protect hands with category III work gloves (see standard EN 374).

The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

**SKIN PROTECTION**

Wear category II professional long-sleeved overalls and safety footwear (see Directive 89/686/EEC and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

**EYE PROTECTION**

Wear airtight protective goggles (see standard EN 166).

**RESPIRATORY PROTECTION**

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, use a mask with a type B filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

**ENVIRONMENTAL EXPOSURE CONTROLS.**

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

**SECTION 9. Physical and chemical properties.****9.1. Information on basic physical and chemical properties.**

Appearance	liquid
Colour	brown
Odour	characteristic
Odour threshold.	Not available.
pH.	Not applicable, product is not water based.
Melting point / freezing point.	Not available.
Initial boiling point.	>300°C
Boiling range.	Not available.
Flash point.	> 60 °C.



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Evaporation Rate	Not available.
Flammability of solids and gases	Not available.
Lower inflammability limit.	Not available.
Upper inflammability limit.	Not available.
Lower explosive limit.	Not available.
Upper explosive limit.	Not available.
Vapour pressure.	Not available.
Vapour density	Not available.
Relative density.	1,20 kg/l @ 20°C.
Solubility	Not miscible in water or polar solvent, miscible in apolar solvent.
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature.	Not available.
Decomposition temperature.	Not available.
Viscosity	18 – 32 mPa*s @ 25°C
Explosive properties	Not available.
Oxidising properties	Not available.

**9.2. Other information.**

Information not available.

**SECTION 10. Stability and reactivity.****10.1. Reactivity.**

4,4'-methylendiphenyl diisocyanate  
May react dangerously if exposed to: water, alcohols, amines, strong bases.

**10.2. Chemical stability.**

Information not available.

**10.3. Possibility of hazardous reactions.**

The product may react violently with water.

**10.4. Conditions to avoid.**

Avoid overheating. Prevent moisture or water from penetrating inside the containers.

**10.5. Incompatible materials.**

Information not available.

**10.6. Hazardous decomposition products.**

Information not available.

**SECTION 11. Toxicological information.****11.1. Information on toxicological effects.**

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.

It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

**ACUTE TOXICITY.**

LC50 (Inhalation - vapours) of the mixture:15,71 mg/l  
LC50 (Inhalation - mists / powders) of the mixture:5,0 mg/l  
LD50 (Oral) of the mixture:Not classified (no significant component).  
LD50 (Dermal) of the mixture:Not classified (no significant component).

4,4'-methylenediphenyl diisocyanate  
LD50 (Oral) > 10000 mg/kg rat  
LD50 (Dermal) > 9400 mg/kg rabbit  
LC50 (Inhalation) 1,5 mg/l/4h rat

Methylenediphenyl diisocyanate, isomers and analogues  
LD50 (Oral) > 10000 mg/kg rat  
LD50 (Dermal) > 9400 mg/kg rabbit  
LC50 (Inhalation) 0,31 mg/l/4h rat

Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate / methylene diphenyl diisocyanate  
LD50 (Oral) > 10000 mg/kg rat  
LD50 (Dermal) > 9400 mg/kg rabbit  
LC50 (Inhalation) 0,49 mg/l/4h rat

**SKIN CORROSION / IRRITATION.**

Causes skin irritation.

**SERIOUS EYE DAMAGE / IRRITATION.**

Causes serious eye irritation.

**RESPIRATORY OR SKIN SENSITISATION.**

Sensitising for the skin.

**GERM CELL MUTAGENICITY.**

Does not meet the classification criteria for this hazard class.

**CARCINOGENICITY.**

Suspected of causing cancer.

**REPRODUCTIVE TOXICITY.**

Does not meet the classification criteria for this hazard class.

**STOT - SINGLE EXPOSURE.**

May cause respiratory irritation.

**STOT - REPEATED EXPOSURE.**

May cause damage to organs.

**ASPIRATION HAZARD.**

Does not meet the classification criteria for this hazard class.

**SECTION 12. Ecological information.****12.1. Toxicity.**

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation.

4,4'-methylenediphenyl diisocyanate	
LC50 - for Fish.	> 1000 mg/l/96h Danio Rerio
EC50 - for Crustacea.	> 1000 Daphnia Magna
EC50 - for Algae / Aquatic Plants.	> 1640 mg/l/72h Desmodesmus Subspicatus
Chronic NOEC for Crustacea.	> 10 mg/l (504 h)

**12.2. Persistence and degradability.**

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Methylenediphenyl diisocyanate, isomers and analogues  
NOT rapidly biodegradable.

Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate / methylene diphenyl diisocyanate  
NOT rapidly biodegradable.

**12.3. Bioaccumulative potential.**

Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate / methylene diphenyl diisocyanate

Partition coefficient: n-octanol/water.	4,51
BCF.	200

**12.4. Mobility in soil.**

Information not available.

**12.5. Results of PBT and vPvB assessment.**

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

**12.6. Other adverse effects.**

Information not available.

**SECTION 13. Disposal considerations.****13.1. Waste treatment methods.**

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

**SECTION 14. Transport information.**

The product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

**14.1. UN number.**

Not applicable.



**14.2. UN proper shipping name.**

Not applicable.

**14.3. Transport hazard class(es).**

Not applicable.

**14.4. Packing group.**

Not applicable.

**14.5. Environmental hazards.**

Not applicable.

**14.6. Special precautions for user.**

Not applicable.

**14.7. Transport in bulk according to Annex II of Marpol and the IBC Code.**

Information not relevant.

**SECTION 15. Regulatory information.**

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

Seveso Category - Directive 2012/18/EC: None.

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006.

Product.

Point. 3

Contained substance.

Point. 56 Methylendiphenyl diisocyanate, isomers and analogues

Point. 56 4,4'-methylendiphenyl diisocyanate  
Reg. no.: 01-2119457014-47-XXXX

Substances in Candidate List (Art. 59 REACH).

On the basis of available data, the product does not contain any SVHC in percentage greater than 0,1%.

Substances subject to authorisation (Annex XIV REACH).

None.

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None.

Substances subject to the Rotterdam Convention:

None.

Substances subject to the Stockholm Convention:

None.

Healthcare controls.

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

**15.2. Chemical safety assessment.**

No chemical safety assessment has been processed for the mixture and the substances it contains.

**SECTION 16. Other information.**

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

<b>Carc. 2</b>	Carcinogenicity, category 2
<b>Acute Tox. 4</b>	Acute toxicity, category 4
<b>STOT RE 2</b>	Specific target organ toxicity - repeated exposure, category 2
<b>Eye Irrit. 2</b>	Eye irritation, category 2
<b>Skin Irrit. 2</b>	Skin irritation, category 2
<b>STOT SE 3</b>	Specific target organ toxicity - single exposure, category 3
<b>Resp. Sens. 1</b>	Respiratory sensitization, category 1
<b>Skin Sens. 1</b>	Skin sensitization, category 1
<b>H351</b>	Suspected of causing cancer.
<b>H332</b>	Harmful if inhaled.
<b>H373</b>	May cause damage to organs through prolonged or repeated exposure.
<b>H319</b>	Causes serious eye irritation.
<b>H315</b>	Causes skin irritation.
<b>H335</b>	May cause respiratory irritation.
<b>H334</b>	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
<b>H317</b>	May cause an allergic skin reaction.
<b>EUH204</b>	Contains isocyanates. May produce an allergic reaction.

**LEGEND:**

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number



- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

**GENERAL BIBLIOGRAPHY**

1. Regulation (EU) 1907/2006 (REACH) of the European Parliament
  2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
  3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
  4. Regulation (EU) 2015/830 of the European Parliament
  5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
  6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
  7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
  8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
  9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
  10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
- The Merck Index. - 10th Edition
  - Handling Chemical Safety
  - INRS - Fiche Toxicologique (toxicological sheet)
  - Patty - Industrial Hygiene and Toxicology
  - N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
  - ECHA website

**Note for users:**

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.