# Deckblatt zum Sicherheitsdatenblatt
# Fiche de données de sécurité: page de garde
# Pagina di copertina della scheda di dati di sicurezza

überarbeitet am / élaborée le / elaborata il 03 03 2025
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**Produktidentifikation / Identification du produit / Identificatore del prodotto:**
Handelsname / Nom commercial / Nome del prodotto TOP-TIER ADHESIVE PART A Isocyanate
Verwendungszweck Mixture
Usage Mélange
Usi pertinenti identificati Miscela

**Lieferant, der das Sicherheitsdatenblatt übermittelt:**
**Fournisseur qui transmet la fiche de données de sécurité:**
**Informazioni sul fornitore della scheda di dati di sicurezza:**

FREY Orthopädie-Bedarf AG
Panoramaweg 35
CH-5504 Othmarsingen
Tel: 062 887 45 00

**Nationale Notfallnummer:** **145** (24h erreichbar, Tox Info Suisse, Zürich; für Anrufe aus der Schweiz, Auskünfte auf Deutsch, Französisch und Italienisch)

**Numéro d'urgence national:** **145** (joignable 24 h sur 24, Tox Info Suisse, Zurich ; pour les appels effectués depuis la Suisse, informations en français, allemand et italien)

**Numero telefonico di emergenza:** **145** (Tox Info Suisse, raggiungibile 24 ore su 24)

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PACELINE
ADVANCED MEDICAL SOLUTIONS

# Safety Data Sheet

This safety data sheet was created pursuant to the requirements of:
Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008

**Revision Date:** 11-Jul-2024 **Version** 1

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

### 1.1. Product identifier

**SDS #** PACE-001-EU
**Product Name** TOP-TIER ADHESIVE Part A ISOCYANATE

**Other means of identification**

**Pure substance/mixture** Mixture

Contains Methylenediphenyl diisocyanate; 4,4- methylenediphenyl diisocyanate (MDI)

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

**Recommended Use** Aromatic isocyanate for adhesives for industrial or professional use

**Uses Advised Against** No information available

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

**Manufacturer**
Paceline, INC.
10737 Independence Pointe Parkway
Matthews, NC 28105
www.paceline.com

For further information, please contact
**Contact Point** 800-443-1827
(8:00 AM - 5:00 PM Eastern Time)
**Email Address** info@paceline.com

### 1.4. Emergency telephone number

Emergency Telephone (24 hr) INFOTRAC 1-352-323-3500 (International)
1-800-535-5053 (North America)

| **Emergency Telephone Number - §45 - (EC)1272/2008** | |
|---|---|
| **Europe** | **112** |

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

***Regulation (EC) No 1272/2008***

| | |
|---|---|
| **Acute toxicity - Inhalation (Dusts/Mists)** | Category 4 - (H332) |
| **Skin corrosion/irritation** | Category 2 - (H315) |
| **Serious eye damage/eye irritation** | Category 2 - (H319) |
| **Respiratory sensitisation** | Category 1 - (H334) |
| **Skin sensitisation** | Category 1 - (H317) |
| **Carcinogenicity** | Category 2 - (H351) |
| **Specific target organ toxicity — single exposure** | Category 3 - (H335) |
| Category 3 Respiratory irritation | |

| | |
|---|---|
| **Specific target organ toxicity — repeated exposure** | Category 2 - (H373) |
| **Chronic aquatic toxicity** | Category 4 - (H413) |

**2.2. Label elements**

Contains Methylenediphenyl diisocyanate; 4,4- methylenediphenyl diisocyanate (MDI)

**Signal word**

Danger

**Hazard statements**

H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H332 - Harmful if inhaled
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335 - May cause respiratory irritation
H351 - Suspected of causing cancer
H373 - May cause damage to organs through prolonged or repeated exposure
H413 - May cause long lasting harmful effects to aquatic life

**Precautionary Statements - EU (§28, 1272/2008)**

P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P260 - Do not breathe dust/fume/gas/mist/vapours/spray
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area
P272 - Contaminated work clothing should not be allowed out of the workplace
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P285 - In case of inadequate ventilation wear respiratory protection
P309 + P311 - IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P304 + P341 - IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing
P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention
P362 - Take off contaminated clothing and wash before reuse
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337 + P313 - If eye irritation persists: Get medical advice/attention
P405 - Store locked up
P501 - Dispose of contents/ container to an approved waste disposal plant
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
P273 - Avoid release to the environment

**Unknown acute toxicity**

**Unknown aquatic toxicity** Contains 0 % of components with unknown hazards to the aquatic environment.

**Additional information**
This product requires tactile warnings if supplied to the general public.

**2.3. Other hazards**
No information available.

**Endocrine Disruptor Information** This product does not contain any known or suspected endocrine disruptors.

## SECTION 3: Composition/information on ingredients

**3.1 Substances**
Not applicable

**3.2 Mixtures**

| Chemical name | Weight-% | REACH registration number | EC No (EU Index No) | Classification according to Regulation (EC) No. 1272/2008 [CLP] | Specific concentration limit (SCL) | M-Factor | M-Factor (long-term) |
|---|---|---|---|---|---|---|---|
| Methylenediphenyl diisocyanate 26447-40-5 | 25-35 | No data available | (615-005-00-9) 247-714-0 | Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Resp. Sens. 1 (H334) Skin Sens. 1 (H317) Carc. 2 (H351) STOT SE 3 (H335) STOT RE 2 (H373) | Eye Irrit. 2 :: C>=5% Resp. Sens. 1 :: C>=0.1% Skin Irrit. 2 :: C>=5% STOT SE 3 :: C>=5% | - | - |
| 4,4-methylenediphenyl diisocyanate (MDI) 101-68-8 | 15-25 | No data available | (615-005-00-9) 202-966-0 | Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Resp. Sens. 1 (H334) Skin Sens. 1 (H317) Carc. 2 (H351) STOT SE 3 (H335) STOT RE 2 (H373) | Eye Irrit. 2 :: C>=5% Resp. Sens. 1 :: C>=0.1% Skin Irrit. 2 :: C>=5% STOT SE 3 :: C>=5% | - | - |

**Full text of H- and EUH-phrases: see section 16**

***Acute Toxicity Estimate***
If LD50/LC50 data is not available or does not correspond to the classification category, then the appropriate conversion value from CLP Annex I, Table 3.1.2, is used to calculate the acute toxicity estimate (ATEmix) for classifying a mixture based on its components

| Chemical name | Oral LD50 mg/kg | Dermal LD50 mg/kg | Inhalation LC50 - 4 hour - dust/mist - mg/L | Inhalation LC50 - 4 hour - vapour - mg/L | Inhalation LC50 - 4 hour - gas - ppm |
|---|---|---|---|---|---|
| Methylenediphenyl diisocyanate 26447-40-5 | 10000 | 10000 | Inhalation LC50 Rat 490 mg/m$^3$ 4 h (aerosol, Source: OECD_SIDS) | 490 | Inhalation LC50 Rat 490 mg/m$^3$ 4 h (aerosol, Source: OECD_SIDS) |
| 4,4- methylenediphenyl diisocyanate (MDI) 101-68-8 | 31600 | No data available | Inhalation LC50 Rat 369 mg/m$^3$ 4 h (Source: NZ_CCID) 0.369 | 369 | Inhalation LC50 Rat 369 mg/m$^3$ 4 h (Source: NZ_CCID) |

This product does not contain candidate substances of very high concern at a concentration >=0.1% (Regulation (EC) No. 1907/2006 (REACH), Article 59)

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

**General advice** Show this safety data sheet to the doctor in attendance. IF exposed or concerned: Get medical advice/attention.

**Inhalation** May cause allergic respiratory reaction. If breathing has stopped, give artificial respiration. Get medical attention immediately. Remove to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Get immediate medical attention.

**Eye contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.

**Skin contact** May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a doctor. Wash off immediately with soap and plenty of water for at least 15 minutes.

**Ingestion** May produce an allergic reaction. Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Get immediate medical attention.

**Self-protection of the first aider** Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personal protective equipment as required. See section 8 for more information. Avoid breathing vapours or mists.

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

**Symptoms** May cause allergy or asthma symptoms or breathing difficulties if inhaled. Coughing and/ or wheezing. Itching. Rashes. Hives. May cause redness and tearing of the eyes. Burning sensation. Difficulty in breathing.

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

**Note to doctors** May cause sensitisation in susceptible persons. Treat symptomatically.

## SECTION 5: Firefighting measures

**5.1. Extinguishing media**

**Suitable Extinguishing Media** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Large Fire** CAUTION: Use of water spray when fighting fire may be inefficient.

**Unsuitable extinguishing media** Do not scatter spilled material with high pressure water streams.

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

**Specific hazards arising from the chemical** Product is or contains a sensitiser. May cause sensitisation by inhalation. May cause sensitisation by skin contact.

**5.3. Advice for firefighters**

**Special protective equipment and precautions for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## SECTION 6: Accidental release measures

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

**Personal precautions** Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Avoid breathing vapours or mists.

**Other information** Refer to protective measures listed in Sections 7 and 8.

**For emergency responders** Use personal protection recommended in Section 8.

**6.2. Environmental precautions**

**Environmental precautions** Prevent further leakage or spillage if safe to do so.

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

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Take up mechanically, placing in appropriate containers for disposal.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

**6.4. Reference to other sections**

**Reference to other sections** See section 8 for more information. See section 13 for more information.

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling**

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. In case of insufficient ventilation, wear

suitable respiratory equipment. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash it before reuse. Remove contaminated clothing and shoes. Avoid breathing vapours or mists.

**General hygiene considerations** Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and immediately after handling the product.

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

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children.

**Storage class (TRGS 510)** LGK 10.

### 7.3. Specific end use(s)

**Specific Use(s)**
Aromatic isocyanate for adhesives for industrial or professional use.

**Risk Management Methods (RMM)** The information required is contained in this Safety Data Sheet.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

**Exposure Limits**

| Chemical name | European Union | Austria | Belgium | Bulgaria | Croatia |
|---|---|---|---|---|---|
| Methylenediphenyl diisocyanate 26447-40-5 | - | STEL 0.01 ppm<br>STEL 0.1 mg/m$^3$<br>Sa+<br>Sh+ | - | STEL: 0.07 mg/m$^3$<br>TWA: 0.05 mg/m$^3$ | TWA: 0.02 mg/m$^3$<br>STEL: 0.07 mg/m$^3$ |
| 4,4- methylenediphenyl diisocyanate (MDI) 101-68-8 | - | TWA: 0.005 ppm<br>TWA: 0.05 mg/m$^3$<br>STEL 0.01 ppm<br>STEL 0.1 mg/m$^3$<br>Sa+<br>Sh+ | TWA: 0.005 ppm<br>TWA: 0.052 mg/m$^3$ | - | TWA: 0.02 mg/m$^3$<br>STEL: 0.07 mg/m$^3$ |

| Chemical name | Cyprus | Czech Republic | Denmark | Estonia | Finland |
|---|---|---|---|---|---|
| Methylenediphenyl diisocyanate 26447-40-5 | - | - | - | S+<br>TWA: 0.005 ppm<br>STEL: 0.01 ppm | STEL: 0.035 mg/m$^3$ |
| 4,4- methylenediphenyl diisocyanate (MDI) 101-68-8 | - | TWA: 0.05 mg/m$^3$<br>Ceiling: 0.1 mg/m$^3$<br>S+ | TWA: 0.005 ppm<br>TWA: 0.05 mg/m$^3$ | S+<br>TWA: 0.005 ppm<br>TWA: 0.05 mg/m$^3$<br>STEL: 0.01 ppm<br>STEL: 0.1 mg/m$^3$ | STEL: 0.035 mg/m$^3$ |

| Chemical name | France | Germany TRGS | Germany DFG | Greece | Hungary |
|---|---|---|---|---|---|
| Methylenediphenyl diisocyanate 26447-40-5 | - | - | - | TWA: 0.02 ppm<br>TWA: 0.2 mg/m$^3$<br>STEL: 0.02 ppm<br>STEL: 0.2 mg/m$^3$ | - |
| 4,4- methylenediphenyl diisocyanate (MDI) | TWA: 0.01 ppm<br>TWA: 0.1 mg/m$^3$ | TWA: 0.05 mg/m$^3$<br>Sa+ | TWA: 0.05 mg/m$^3$<br>Peak: 0.05 mg/m$^3$ | - | TWA: 0.05 mg/m$^3$<br>sz+ |

| | | | | | |
|---|---|---|---|---|---|
| 101-68-8 | STEL: 0.02 ppm<br>STEL: 0.2 mg/m$^3$<br>AR+ | Sh+<br>H* | *<br>respiratory and skin sensitizer inhalable fraction | | STEL: 0.05 mg/m$^3$ |

| Chemical name | Ireland | Italy MDLPS | Italy AIDII | Latvia | Lithuania |
|---|---|---|---|---|---|
| Methylenediphenyl diisocyanate<br>26447-40-5 | TWA: 0.02 mg/m$^3$<br>STEL: 0.07 mg/m$^3$<br>Sens+ | - | - | - | TWA: 0.005 ppm<br>TWA: 0.05 mg/m$^3$<br>Ceiling: 0.01 ppm<br>Ceiling: 0.1 mg/m$^3$<br>J+ |
| 4,4- methylenediphenyl diisocyanate (MDI)<br>101-68-8 | TWA: 0.005 ppm<br>STEL: 0.015 ppm<br>Sens+ | - | TWA: 0.005 ppm<br>TWA: 0.051 mg/m$^3$ | - | TWA: 0.005 ppm<br>TWA: 0.05 mg/m$^3$<br>Ceiling: 0.01 ppm<br>Ceiling: 0.1 mg/m$^3$<br>J+ |

| Chemical name | Luxembourg | Malta | Netherlands | Norway | Poland |
|---|---|---|---|---|---|
| Methylenediphenyl diisocyanate<br>26447-40-5 | - | - | - | TWA: 0.005 ppm<br>A+<br>STEL: 0.01 ppm | STEL: 0.09 mg/m$^3$<br>TWA: 0.03 mg/m$^3$ |
| 4,4- methylenediphenyl diisocyanate (MDI)<br>101-68-8 | - | - | - | TWA: 0.005 ppm<br>TWA: 0.05 mg/m$^3$<br>A+<br>STEL: 0.01 ppm | STEL: 0.09 mg/m$^3$<br>TWA: 0.03 mg/m$^3$ |

| Chemical name | Portugal | Romania | Slovakia | Slovenia | Spain |
|---|---|---|---|---|---|
| 4,4- methylenediphenyl diisocyanate (MDI)<br>101-68-8 | TWA: 0.005 ppm | STEL: 0.15 mg/m$^3$ | TWA: 0.002 mg/m$^3$<br>TWA: 0.03 mg/m$^3$<br>S+ | TWA: 0.05 mg/m$^3$<br>TWA: 0.005 ppm<br>STEL: 0.05 mg/m$^3$<br>STEL: 0.005 ppm<br>K* | TWA: 0.005 ppm<br>TWA: 0.052 mg/m$^3$<br>Sen+ |

| Chemical name | Sweden | Switzerland | United Kingdom |
|---|---|---|---|
| Methylenediphenyl diisocyanate<br>26447-40-5 | :<br>NGV: 0.002 ppm<br>S+ | S+<br>TWA: 0.02 mg/m$^3$<br>STEL: 0.02 mg/m$^3$ | TWA: 0.02 mg/m$^3$<br>STEL: 0.07 mg/m$^3$<br>Sen+ |
| 4,4- methylenediphenyl diisocyanate (MDI)<br>101-68-8 | NGV: 0.002 ppm<br>NGV: 0.03 mg/m$^3$<br>Bindande KGV: 0.005 ppm<br>Bindande KGV: 0.05 mg/m$^3$<br>S+ | S+<br>TWA: 0.02 mg/m$^3$<br>STEL: 0.02 mg/m$^3$<br>H* | TWA: 0.02 mg/m$^3$<br>STEL: 0.07 mg/m$^3$<br>Sen+ |

**Biological occupational exposure limits**

| Chemical name | European Union | Austria | Bulgaria | Croatia | Czech Republic |
|---|---|---|---|---|---|
| Methylenediphenyl diisocyanate<br>26447-40-5 | - | 10 µg/g Creatinine (urine - 4,4'-Diaminodiphenylmethane after end of work day, at the end of a work week/end of the shift)<br>( - ) | - | - | - |
| 4,4- methylenediphenyl diisocyanate (MDI)<br>101-68-8 | - | 10 µg/g Creatinine (urine - 4,4'-Diaminodiphenylmethane after end of work day, at the end of a work week/end of the shift) | - | - | - |

| | | ( - ) | | | |
|---|---|---|---|---|---|
| Chemical name | Denmark | Finland | France | Germany DFG | Germany TRGS |
| 4,4- methylenediphenyl diisocyanate (MDI) 101-68-8 | - | - | - | 10 µg/L - BLW (end of exposure or end of shift) urine | - |

| Chemical name | Hungary | Ireland | Italy MDLPS | Italy AIDII |
|---|---|---|---|---|
| Methylenediphenyl diisocyanate 26447-40-5 | - | 1 µmol/mol Creatinine (urine - urinary Diamine post task) | - | - |
| 4,4- methylenediphenyl diisocyanate (MDI) 101-68-8 | 0.01 mg/L (urine - MDA (after hydrolysis) end of shift)<br>0.05 µmol/L (urine - MDA (after hydrolysis) end of shift) | 1 µmol/mol Creatinine (urine - urinary Diamine post task) | - | - |

| Chemical name | Slovenia | Spain | Switzerland | United Kingdom |
|---|---|---|---|---|
| 4,4- methylenediphenyl diisocyanate (MDI) 101-68-8 | - | - | 10 µg/g creatinine (urine - 4,4'-Diaminodiphenylmethane end of shift)<br>5 nmol/mmol creatinine (urine - 4,4'-Diaminodiphenylmethane end of shift) | 1 mmol isocyanate-derived diamine/mol creatinine - urine () - end of the period of exposure |

**Derived No Effect Level (DNEL) - Workers** No information available

**Derived No Effect Level (DNEL) - General Public** No information available.

**Predicted No Effect Concentration (PNEC)** No information available.

**8.2. Exposure controls**

**Engineering controls** No information available.

**Personal Protective Equipment**

**Eye/face protection** Wear safety glasses with side shields (or goggles).

**Hand protection** Wear suitable gloves. Impervious gloves.

**Skin and body protection** Wear suitable protective clothing. Long sleeved clothing.

**Respiratory protection** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**General hygiene considerations** Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and immediately after handling the product.

**Environmental exposure controls** No information available.

## SECTION 9: Physical and chemical properties

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

| | |
|---|---|
| **Physical state** | Liquid |
| **Appearance** | Clear to pale yellow liquid |
| **Colour** | Clear to pale yellow |
| **Odour** | Faint aromatic odor. |
| **Odour Threshold** | No information available |

| **Property** | **Values** | **Remarks • Method** |
|---|---|---|
| **Melting point / freezing point** | 0 °C | |
| **Initial boiling point and boiling range** | 208 °C | |
| **Flammability (Solid, Gas)** | No data available | |
| **Flammability Limit in Air** | | |
| **Upper flammability or explosive limits** | No data available | |
| **Lower flammability or explosive limits** | No data available | |
| **Flash point** | >93.34 | Pensky-Martens Closed Cup (PMCC) |
| **Autoignition temperature** | No data available | |
| **Decomposition temperature** | | |
| **pH** | No data available | |
| **pH (as aqueous solution)** | No data available | |
| **Kinematic viscosity** | No data available | |
| **Dynamic Viscosity** | No data available | |
| **Water solubility** | Insoluble in water | |
| **Solubility(ies)** | No data available | |
| **Partition Coefficient** | No data available | |
| **Vapour Pressure** | < 0.001 mmHg at 25°C | |
| **Relative Density** | 1.12 g/cm3 at 25°C (77° F) | |
| **Bulk Density** | No data available | |
| **Liquid Density** | No data available | |
| **Vapour Density** | No data available | |
| **Particle characteristics** | | |
| **Particle Size** | No information available | |
| **Particle Size Distribution** | No information available | |

**9.2. Other information**

***9.2.1. Information with regards to physical hazard classes***
Not applicable

***9.2.2. Other safety characteristics***
No information available

## SECTION 10: Stability and reactivity

**10.1. Reactivity**

**Reactivity** No information available.

**10.2. Chemical stability**

**Stability** Stable under normal conditions.

**Explosion Data**

**Sensitivity to mechanical impact** None.
**Sensitivity to static discharge** None.

**10.3. Possibility of hazardous reactions**

**Possibility of hazardous reactions** None under normal processing.

**10.4. Conditions to avoid**

**Conditions to avoid** Excessive heat.

**10.5. Incompatible materials**

**Incompatible materials** Strong acids. Strong bases. Strong oxidising agents.

**10.6. Hazardous decomposition products**

**Hazardous Decomposition Products** None known based on information supplied.

## SECTION 11: Toxicological information

**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008**

**Information on likely routes of exposure**

**Product Information**

**Inhalation** Specific test data for the substance or mixture is not available. May cause sensitisation in susceptible persons. (based on components). May cause irritation of respiratory tract. Harmful by inhalation.

**Eye contact** Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). May cause redness, itching, and pain.

**Skin contact** Specific test data for the substance or mixture is not available. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. (based on components). May cause sensitisation by skin contact. Causes skin irritation.

**Ingestion** Specific test data for the substance or mixture is not available. May cause additional affects as listed under "Inhalation". Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

**Symptoms related to the physical, chemical and toxicological characteristics**

**Symptoms** Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing. Coughing and/ or wheezing. Itching. Rashes. Hives. Redness. May cause redness and tearing of the eyes.

**Acute toxicity**

**Numerical measures of toxicity**

**The following values are calculated based on chapter 3.1 of the GHS document**

| | |
|---|---|
| **ATEmix (oral)** | 10,486.70 mg/kg |
| **ATEmix (dermal)** | 5,714.30 mg/kg |

**Unknown acute toxicity**
**Component Information**

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| Methylenediphenyl diisocyanate | > 10000 mg/kg ( Rat ) | > 10000 mg/kg ( Rabbit ) | = 490 mg/m$^3$ ( Rat ) 4 h |
| 4,4- methylenediphenyl diisocyanate (MDI) | = 31600 mg/kg ( Rat ) | - | = 369 mg/m$^3$ ( Rat ) 4 h |

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Skin corrosion/irritation** Classification based on data available for ingredients. Causes skin irritation. May cause skin irritation.

**Serious eye damage/eye irritation** Classification based on data available for ingredients. Causes serious eye irritation.

**Respiratory or skin sensitisation** May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

**Germ cell mutagenicity** Not classified.

**Carcinogenicity** Contains a known or suspected carcinogen. Classification based on data available for ingredients. Suspected of causing cancer.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Chemical name | European Union |
|---|---|
| Methylenediphenyl diisocyanate | Carc. 2 |
| 4,4- methylenediphenyl diisocyanate (MDI) | Carc. 2 |

**Reproductive toxicity** Contains a known or suspected reproductive toxin. Classification based on data available for ingredients.

**STOT - single exposure** May cause respiratory irritation.

**STOT - repeated exposure** May cause damage to organs through prolonged or repeated exposure.

**Aspiration hazard** Not classified.

**11.2. Information on other hazards**

**11.2.1. Endocrine disrupting properties**

**Endocrine disrupting properties** This product does not contain any known or suspected endocrine disruptors.

**11.2.2. Other information**

**Other Adverse Effects** No information available.

## SECTION 12: Ecological information

**12.1. Toxicity**

**Ecotoxicity** May cause long lasting harmful effects to aquatic life.

**Unknown aquatic toxicity** Contains 0 % of components with unknown hazards to the aquatic environment.

**12.2. Persistence and degradability**

**Persistence/Degradability** No information available.

**12.3. Bioaccumulative potential**

**Bioaccumulation**

**Component Information**

| Chemical name | Partition coefficient |
|---|---|
| Methylenediphenyl diisocyanate | 4.5 |
| 4,4- methylenediphenyl diisocyanate (MDI) | 4.51 |

**12.4. Mobility in soil**

**Mobility in Soil** No information available.

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

**PBT and vPvB assessment** The product does not contain any substance(s) classified as PBT or vPvB.

| Chemical name | PBT and vPvB assessment |
|---|---|
| 4,4- methylenediphenyl diisocyanate (MDI) | The substance is not PBT / vPvB |

**12.6. Endocrine disrupting properties**

**Endocrine disrupting properties** No information available.

**12.7. Other adverse effects**
No information available.

## SECTION 13: Disposal considerations

**13.1. Waste treatment methods**

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

## SECTION 14: Transport information

**IMDG**
**14.2 Proper Shipping Name** Not regulated

**RID**
**14.2 Proper Shipping Name** Not regulated

**ADR**
**14.2 Proper Shipping Name** Not regulated

**IATA**
**14.2 Proper Shipping Name** Not regulated

## SECTION 15: Regulatory information

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

**National regulations**

**France**
**Occupational Illnesses (R-463-3, France)**

| Chemical name | French RG number |
|---|---|
| Methylenediphenyl diisocyanate<br>26447-40-5 | RG 62 |
| 4,4- methylenediphenyl diisocyanate (MDI)<br>101-68-8 | RG 62 |

**European Union**

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

**Authorisations and/or restrictions on use:**
This product contains one or more substance(s) subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

| Chemical name | Restricted substance per REACH Annex XVII | Substance subject to authorisation per REACH Annex XIV |
|---|---|---|
| Methylenediphenyl diisocyanate - 26447-40-5 | 56.<br>75. | - |
| 4,4- methylenediphenyl diisocyanate (MDI) - 101-68-8 | 56[a].<br>75. | - |

**Persistent Organic Pollutants**
Not applicable

**Ozone-depleting substances (ODS) regulation (EC) 1005/2009**
Not applicable

**International Inventories**

| Chemical name | TSCA | DSL/NDSL | EINECS/ELINCS | PICCS | ENCS | IECSC | AIIC | KECL |
|---|---|---|---|---|---|---|---|---|
| Methylenediphenyl diisocyanate 26447-40-5 ( 25-35 ) | X | X | X | X | X | X | X | X |
| 4,4- methylenediphenyl diisocyanate (MDI) 101-68-8 ( 15-25 ) | X | X | X | X | X | X | X | X |

**International Inventories**

| | |
|---|---|
| **TSCA** | Contact supplier for inventory compliance status |
| **DSL/NDSL** | Contact supplier for inventory compliance status |
| **EINECS/ELINCS** | Contact supplier for inventory compliance status |
| **ENCS** | Contact supplier for inventory compliance status |
| **IECSC** | Contact supplier for inventory compliance status |
| **KECL** | Contact supplier for inventory compliance status |
| **PICCS** | Contact supplier for inventory compliance status |
| **AIIC** | Contact supplier for inventory compliance status |
| **NZIoC** | Contact supplier for inventory compliance status |

**Legend:**
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

**ENCS** - Japan Existing and New Chemical Substances
**IECSC** - China Inventory of Existing Chemical Substances
**KECL** - Korean Existing and Evaluated Chemical Substances
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances
**AICS** - Australian Inventory of Chemical Substances
**NZIoC** - New Zealand Inventory of Chemicals

**15.2. Chemical safety assessment**

**Chemical Safety Report** No information available

## SECTION 16: Other information

**Key or legend to abbreviations and acronyms used in the safety data sheet**

**Full text of H-Statements referred to under section 3**
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H332 - Harmful if inhaled
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335 - May cause respiratory irritation
H351 - Suspected of causing cancer
H373 - May cause damage to organs through prolonged or repeated exposure

**Legend**
SVHC: Substances of Very High Concern for Authorisation:

**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

| | | | |
|---|---|---|---|
| TWA | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value | * | Skin designation |
| + | Sensitisers | | |

| Classification procedure | |
|---|---|
| Classification according to Regulation (EC) No. 1272/2008 [CLP] | Method Used |
| Acute oral toxicity | Calculation method |
| Acute dermal toxicity | Calculation method |
| Acute inhalation toxicity - gas | On basis of test data |
| Acute inhalation toxicity - vapour | Calculation method |
| Acute inhalation toxicity - dust/mist | On basis of test data |
| Skin corrosion/irritation | Calculation method |
| Serious eye damage/eye irritation | Calculation method |
| Respiratory sensitisation | Calculation method |
| Skin sensitisation | Calculation method |
| Mutagenicity | Calculation method |
| Carcinogenicity | Calculation method |
| Reproductive toxicity | Calculation method |
| STOT - single exposure | Calculation method |
| STOT - repeated exposure | Calculation method |
| Acute aquatic toxicity | Calculation method |
| Chronic aquatic toxicity | Calculation method |
| Aspiration hazard | Calculation method |
| Ozone | Calculation method |

**Key literature references and sources for data used to compile the SDS**
Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
European Chemicals Agency (ECHA) (ECHA_API)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
National Institute of Technology and Evaluation (NITE)
Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine’s PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme
Organisation for Economic Co-operation and Development Screening Information Data Set
World Health Organization

**Revision Date:** 11-Jul-2024

**Revision Note:** New

**Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)**
**Disclaimer**
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**End of Safety Data Sheet**