

## SAFETY DATA SHEET

Version 6.5  
Revision Date 05/06/2025  
Print Date 05/07/2025

## SECTION 1. IDENTIFICATION

## 1.1 Product identifiers

Product name : 4,4'-Methylenebis(2,6-diethylphenyl isocyanate)

Product Number : 381535  
Brand : Aldrich  
CAS-No. : 105442-35-1

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

Identified uses : Laboratory chemicals, Synthesis of substances

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

Company : Sigma-Aldrich Inc.  
3050 SPRUCE ST  
ST. LOUIS MO 63103  
UNITED STATES

Telephone : +1 314 771-5765  
Fax : +1 800 325-5052

## 1.4 Emergency telephone number

Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-  
527-3887 CHEMTREC (International) 24  
Hours/day; 7 Days/week

## SECTION 2. HAZARDS IDENTIFICATION

**GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)**

Acute toxicity (Oral) : Category 4

Acute toxicity (Inhalation) : Category 4

Acute toxicity (Dermal) : Category 4

Eye irritation : Category 2A

Respiratory sensitization : Category 1  
Skin sensitization : Category 1  
Specific target organ toxicity - single exposure : Category 3 (Respiratory system)

**Other hazards**

None known.

**GHS label elements**

Hazard pictograms :



Signal Word : Danger

Hazard Statements : H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
H335 May cause respiratory irritation.

Precautionary Statements :

**Prevention:**

P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.  
P264 Wash 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 must 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.

**Response:**

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.  
P302 + P352 + P312 IF ON SKIN: Wash with plenty of water. Call a POISON CENTER/ doctor if you feel unwell.  
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.  
P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER/ doctor.  
P363 Wash contaminated clothing before reuse.

**Storage:**

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  
P405 Store locked up.

**Disposal:**

P501 Dispose of contents/ container to an approved waste disposal plant.

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### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

**Components**

| Chemical name                                   | CAS No./Unique ID | Concentration (% w/w) | Trade secret |
|---|-------------------|-----------------------|--------------|
| 4,4'-Methylenebis(2,6-diethylphenyl isocyanate) | 105442-35-1*      | $\geq 90 - \leq 100$  | -            |

\* Indicates that the identifier is a CAS No.

Actual concentration is withheld as a trade secret

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### SECTION 4. FIRST AID MEASURES

General advice : First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled : After inhalation: fresh air. Immediately call in physician.  
If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

In case of skin contact : In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

In case of eye contact : After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

If swallowed : After swallowing: immediately make victim drink

Aldrich - 381535

Page 3 of 13

water (two glasses at most).  
Consult a physician.

|   |   |
|---|---|
| Most important symptoms and effects, both acute and delayed | : The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11 |
| Protection of first-aiders                                  | : For personal protection see section 8.  |
| Notes to physician  | : No data available   |

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## SECTION 5. FIRE-FIGHTING MEASURES

|  |   |
|--|---|
| Suitable extinguishing media                   | : Water<br>Foam<br>Carbon dioxide (CO <sub>2</sub> )<br>Dry powder  |
| Unsuitable extinguishing media                 | : For this substance/mixture no limitations of extinguishing agents are given.  |
| Specific hazards during fire fighting          | : Combustible.<br><br>Development of hazardous combustion gases or vapours possible in the event of fire.   |
| Hazardous combustion products                  | : Carbon oxides<br><br>Nitrogen oxides (NO <sub>x</sub> )   |
| Specific extinguishing methods                 | : No data available   |
| Further information                            | : Suppress (knock down) gases/vapors/mists with a water spray jet.<br>Prevent fire extinguishing water from contaminating surface water or the ground water system. |
| Special protective equipment for fire-fighters | : Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.     |

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## SECTION 6. ACCIDENTAL RELEASE MEASURES

|   |   |
|---|---|
| Personal precautions, protective equipment and emergency procedures | : Advice for non-emergency personnel:<br>Avoid inhalation of dusts.<br>Avoid substance contact.<br>Ensure adequate ventilation.<br>Evacuate the danger area, observe emergency procedures, consult an expert.<br>Advice for emergency responders:<br>For personal protection see section 8. |
| Environmental precautions   | : Do not let product enter drains.  |
| Methods and materials for containment and cleaning up               | : Cover drains. Collect, bind, and pump off spills.<br>Observe possible material restrictions (see sections 7 and 10).<br>Take up carefully. Dispose of properly. Clean up affected area.<br>Avoid generation of dusts.   |

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## SECTION 7. HANDLING AND STORAGE

For precautions see section 2.2.

|   |   |
|---|---|
| Advice on safe handling                   | : Work under hood. Do not inhale substance/mixture.   |
| Further information on storage conditions | : Tightly closed.<br>Dry.<br>Keep locked up or in an area accessible only to qualified or authorized persons. |
| Storage class                             | : 11, Combustible Solids  |
| Recommended storage temperature           | : Recommended storage temperature see product label.  |

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## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

**Engineering measures** : No data available

### Personal protective equipment

Respiratory protection : required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying

standards relating to the used respiratory protection system.

Recommended Filter type: : Filter type P2

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

#### Hand protection

Material : Nitrile rubber  
Break through time : 480 min  
Glove thickness : 0.11 mm  
Protective index : Full contact  
Manufacturer : KCL 741 Dermatril® L

Material : Nitrile rubber  
Break through time : 480 min  
Glove thickness : 0.11 mm  
Protective index : Splash contact  
Manufacturer : KCL 741 Dermatril® L

Remarks : Handle with impervious gloves.  
This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Eye protection : Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).  
Safety glasses

Skin and body protection : protective clothing

Hygiene measures : Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : flakes

Aldrich - 381535

Page 6 of 13

|   |   |
|---|---|
| Color   | : off-white                                 |
| Odor  | : No data available                         |
| Odor Threshold                                      | : No data available                         |
| pH  | : No data available                         |
| Melting point/ range                                | : 131 - 135 °F / 55 - 57 °C<br>Method: lit. |
| Boiling point/boiling range                         | : No data available                         |
| Flash point   | : No data available                         |
| Evaporation rate                                    | : No data available                         |
| Flammability (solid, gas)                           | : No data available                         |
| Flammability (liquids)                              | : No data available                         |
| Burning rate  | : No data available                         |
| Upper explosion limit /<br>Upper flammability limit | : No data available                         |
| Lower explosion limit /<br>Lower flammability limit | : No data available                         |
| Vapor pressure                                      | : No data available                         |
| Relative vapor density                              | : No data available                         |
| Relative density                                    | : No data available                         |
| Density   | : No data available                         |
| Water solubility                                    | : No data available                         |
| Partition coefficient: n-<br>octanol/water          | : No data available                         |
| Autoignition temperature                            | : No data available                         |
| Decomposition<br>temperature                        | : No data available                         |
| Viscosity, dynamic                                  | : No data available                         |
| Viscosity, kinematic                                | : No data available                         |

Aldrich - 381535

Page 7 of 13

|                          |                     |
|--------------------------|---------------------|
| Flow time                | : No data available |
| Explosive properties     | : No data available |
| Oxidizing properties     | : none              |
| Molecular weight         | : 362.46 g/mol      |
| Particle characteristics |                     |
| Particle size            | : No data available |

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## SECTION 10. STABILITY AND REACTIVITY

|                                    |   |
|------------------------------------|---|
| Reactivity                         | : The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed. |
| Chemical stability                 | : The product is chemically stable under standard ambient conditions (room temperature) .   |
| Possibility of hazardous reactions | : No data available   |
| Conditions to avoid                | : Avoid moisture.<br><br>no information available   |
| Incompatible materials             | : Strong oxidizing agents<br>Alcohols<br>Amines<br>Water  |
| Hazardous decomposition products   | : In the event of fire: see section 5   |

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## SECTION 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity

Acute toxicity estimate Oral - Expert judgment - 500.1 mg/kg

Acute toxicity estimate Inhalation - Expert judgment - 4 h - 1.5 mg/l - dust/mist

Acute toxicity estimate Dermal - Expert judgment - 1,100 mg/kg

#### Skin corrosion/irritation

No data available

#### Serious eye damage/eye irritation

Remarks: Causes serious eye irritation.

Aldrich - 381535

Page 8 of 13



**Respiratory or skin sensitization**

May cause allergic respiratory and skin reactions

**Germ cell mutagenicity**

No data available

**Carcinogenicity**

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**Reproductive toxicity**

No data available

**Specific target organ toxicity - single exposure**

Inhalation - May cause respiratory irritation.

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**11.2 Additional Information**

burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Lung irritation, chest pain, pulmonary edema

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity**

No data available

**Persistence and degradability**

No data available

**Bioaccumulative potential**

No data available

**Mobility in soil**

No data available

**Other adverse effects**

No data available

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## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal methods

Waste from residues : Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

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## SECTION 14. TRANSPORT INFORMATION

### International Regulations

#### IATA-DGR

UN/ID No. : UN 3335  
Proper shipping name : Aviation regulated solid, n.o.s.  
(4,4'-Methylenebis(2,6-diethylphenyl isocyanate))  
Class : 9  
Packing group : III  
Labels : Class 9 - Miscellaneous dangerous substances and articles  
Packing instruction (cargo : 956  
aircraft)  
Packing instruction : 956  
(passenger aircraft)

#### IMDG-Code

Not regulated as a dangerous good

#### Transport in bulk according to IMO instruments

Not applicable for product as supplied.

#### National regulation

##### 49 CFR Road

Not regulated as a dangerous good

Poison Inhalation Hazard : No

#### Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

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## SECTION 15. REGULATORY INFORMATION

### CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

### SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

Aldrich - 381535

Page 10 of 13

## **SARA 302 Extremely Hazardous Substances Threshold Planning Quantity**

This material does not contain any components with a section 302 EHS TPQ.

**SARA 311/312 Hazards** : Acute Health Hazard

**SARA 313** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

## **US State Regulations**

### **Massachusetts Right To Know**

No components are subject to the Massachusetts Right to Know Act.

### **Massachusetts Right To Know**

No components are subject to the Massachusetts Right to Know Act.

### **Pennsylvania Right To Know**

4,4'-Methylenebis(2,6-diethylphenyl isocyanate) 105442-35-1

### **Maine Chemicals of High Concern**

Product does not contain any listed chemicals

### **Vermont Chemicals of High Concern**

Product does not contain any listed chemicals

### **Washington Chemicals of High Concern**

Product does not contain any listed chemicals

### **New Jersey Right To Know**

4,4'-Methylenebis(2,6-diethylphenyl isocyanate) 105442-35-1

## **The ingredients of this product are reported in the following inventories:**

TSCA : Product contains substance(s) not listed on TSCA inventory.

### **TSCA list**

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

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## **SECTION 16. OTHER INFORMATION**

### **Full text of other abbreviations**

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation;

Aldrich - 381535

Page 11 of 13

DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

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Aldrich - 381535

Page 12 of 13

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