

1. Product and company identification

Product identifier

Trade name: SL=P070-A - Urethane Bonding Kit Part A

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

General use: Adhesive, Component A, for orthopedic procedures.
For use in industrial installations and professional treatment only.

Details of the supplier of the safety data sheet

Company name: Otto Bock Health Care
 Street/POB-No.: 3820 W. Great Lakes Drive
 Postal Code, city: Salt Lake City, UT 84120
 USA
 WWW: www.ottobockus.com
 Telephone: +1 (801) 956-2400
 Telefax: +1 (801) 956-2401
 Dept. responsible for information:
 Quality Department,
 Telephone: +1 (801) 954-2304 (7 AM – 3 PM, Mountain Time),
 Email: USRegulatory@ottobock.com

Additional information: Corporate headquarters:
 Ottobock SE & Co. KGaA
 Max-Näder-Straße 15
 Duderstadt
 Germany

Emergency phone number

CHEMTREC, Telephone: +1 (800) 424-9300
Transport:
CONSULTANK Lutz Harder GmbH (Contract QUALI003)
Telephone: +49 (0)178-4337434 (from USA: 01149 178 4337434)

2. Hazards identification

Emergency overview

Appearance: Form: liquid, viscous
 Color: colorless, clear
 Odor: nearly odorless
 Classification: Acute Toxicity - inhalative - Category 4; Skin Irritation - Category 2; Eye Irritation - Category 2A; Respiratory Sensitizer - Category 1; Sensitization - skin - Category 1; Aquatic toxicity - acute - Category 3; Aquatic toxicity - chronic - Category 3;

Hazard symbols:



Signal word: **Danger**

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Hazard statements: Causes skin irritation.
 May cause an allergic skin reaction.
 Causes serious eye irritation.
 Harmful if inhaled.
 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 Harmful to aquatic life.
 Harmful to aquatic life with long lasting effects.

Precautionary statements:
 Avoid breathing dust/fume/gas/mist/vapors/spray.
 Use only outdoors or in a well-ventilated area.
 Wear protective gloves/protective clothing/eye protection/face protection.
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 Call a POISON CENTER/doctor if you feel unwell.
 Dispose of contents/container to hazardous or special waste collection point.

Regulatory status

This material is considered hazardous by the U.S. OSHA Hazard Communication Standard (29 CFR 1910.1200) and SIMDUT in Canada.

Hazards not otherwise classified

Heating causes rise in pressure with risk of bursting.
 see section 11: Toxicological information

3. Composition / Information on ingredients

Relevant ingredients:

CAS No.	Designation	Content	Classification
CAS 5124-30-1	Dicyclohexylmethan- 4,4' diisocyanate	5 - 10 %	Acute Toxicity - inhalative - Category 2. Skin Irritation - Category 2. Eye Irritation - Category 2A. Respiratory Sensitizer - Category 1. Sensitization - skin - Category 1. Specific Target Organ Toxicity (Single Exposure) - Category 3.
	Polyurethane Prepolymer	65 - 95 %	Aquatic toxicity - acute - Category 3. Aquatic toxicity - chronic - Category 3.

4. First aid measures

In case of inhalation: Move victim to fresh air; if necessary, provide artificial respiration or oxygen. Immediately get medical attention.

Following skin contact: After contact with skin, wash immediately with soap and plenty of water. Take off immediately all contaminated clothing. Wash contaminated clothing prior to re-use. In case of skin irritation, consult a physician.

After eye contact: Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Seek medical attention if irritation persists.

After swallowing: Consult physician immediately. Do not induce vomiting without medical assistance. Never give anything by mouth to an unconscious person.

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Most important symptoms/effects, acute and delayed

Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction. Causes skin irritation. Causes serious eye irritation.

Information to physician

Treat symptomatically.

5. Fire fighting measures

Flash point/flash point range:

> 212 °F (Closed Cup)

Auto-ignition temperature: No data available

Suitable extinguishing media:

Carbon dioxide, dry chemical powder, alcohol resistant foam.

Extinguishing media which must not be used for safety reasons:

full water jet

Specific hazards arising from the chemical

In case of fire may be liberated: carbon dioxide, carbon monoxide, nitrogen oxides (NOx) and HMDI.

Protective equipment and precautions for firefighters:

Wear self-contained positive pressure breathing apparatus and full firefighting protective clothing.

Additional information:

Cool exposed containers with water spray, but avoid contact of the substance with water. Reacts with water, forming carbon monoxide, producing bursting hazard in closed containers due to build-up of pressure. Do not breathe fumes. Do not allow fire water to penetrate into surface or ground water.

6. Accidental release measures

Personal precautions:

Avoid contact with skin, eyes, and clothing. Wear appropriate protective equipment. Wear self-contained breathing apparatus. Keep unprotected people away. Provide adequate ventilation.

Environmental precautions:

Do not allow to enter into surface water or drains.

Methods for clean-up:

Plug leak if safely possible. Soak up with absorbent materials such as sand, siliceous earth, acid- or universal binder. Store in special closed containers and dispose of according to ordinance. Thoroughly clean surrounding area. Dispose of waste according to applicable legislation.

Additional information:

Special danger of slipping by leaking/spilling product.

7. Handling and storage**Handling**

Advices on safe handling:

Use only outdoors or in a well-ventilated area. In case of inadequate ventilation wear respiratory protection. Do not breathe vapors.

Avoid contact with skin, eyes, and clothing. Wear appropriate protective equipment.

Wash hands before breaks and after work. When using do not eat, drink or smoke. Avoid release to the environment.

Precautions against fire and explosion:

Take standard precautions to prevent fire. Reacts with water, forming carbon monoxide, producing bursting hazard in closed containers due to build-up of pressure.

Storage

Requirements for storerooms and containers:

Keep container tightly closed in a cool, well-ventilated place. Keep away from heat sources, sparks and open flames. Protect from heat and direct sunlight. Protect from moisture contamination.
Store at room temperature.

Hints on joint storage:

Keep away from food, drink and animal feedingstuffs.

Further details:

Pre-existing skin and respiratory conditions including dermatitis, asthma and chronic lung disease might be aggravated by exposure.

8. Exposure controls / personal protection

Exposure guidelines

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value
5124-30-1	Dicyclohexylmethan-4,4' diisocyanate	NIOSH: Ceiling	0.11 mg/m ³ ; 0.01 ppm
		USA: ACGIH: TWA	0.054 mg/m ³ ; 0.005 ppm

Engineering controls

Use local exhaust. Provide adequate ventilation.
See also information in chapter 7, section storage.

Personal protection equipment (PPE)

Eye/face protection

Tightly sealed goggles according to OSHA Standard - 29 CFR: 1910.133 or ANSI Z87.1-2010.

Skin protection

Wear suitable protective clothing.
Protective gloves according to OSHA Standard - 29 CFR: 1910.138.
Glove material: Nitrile rubber
Breakthrough time: 480 min.
Layer thickness: 0.35 mm.
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

Respiratory protection:

Respiratory protection must be worn whenever the TLV (WEL) levels have been exceeded. Recommended Use filter type A (= against vapors of organic substances) according to OSHA Standard - 29 CFR: 1910.134 or ANSI Z88.2.
The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

General hygiene considerations:

Avoid contact with skin, eyes, and clothing. Do not breathe vapor or spray. Take off immediately all contaminated clothing. Safety shower and eye wash station should be easily accessible to the work area.
Street clothing should be stored separately from work clothing. Wash hands before breaks and after work. When using do not eat, drink or smoke.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance:	Form: liquid, viscous Color: colorless, clear
Odor:	nearly odorless
Odor threshold:	No data available
pH value:	No data available
Melting point/freezing point:	No data available
Initial boiling point and boiling range:	No data available
Flash point/flash point range:	> 212 °F (Closed Cup)
Evaporation rate:	No data available
Flammability:	No data available
Explosion limits:	No data available
Vapor pressure:	negligible
Vapor density:	No data available
Density:	1.06 g/mL
Water solubility:	reacts with water
Partition coefficient: n-octanol/water:	No data available
Auto-ignition temperature:	No data available
Thermal decomposition:	No data available
Additional information:	No data available

10. Stability and reactivity

Reactivity:	Refer to section: Possibility of hazardous reactions.
Chemical stability:	Stable under recommended storage conditions.
Possibility of hazardous reactions	Reacts with water, forming carbon monoxide, producing bursting hazard in closed containers due to build-up of pressure. Polymerisation: Will not occur.
Conditions to avoid:	Protect from heat and direct sunlight. Protect from moisture contamination.
Incompatible materials:	Keep away from water. Keep away from acids, strong bases, oxidizing agents and amines.
Hazardous decomposition products:	In case of fire may be liberated: carbon dioxide, carbon monoxide, nitrogen oxides (NOx) and HMDI
Thermal decomposition:	No data available

11. Toxicological information

Toxicological tests

Acute toxicity: LD50 Rat, oral: (estimated, manufacturer information) > 2000 mg/kg
 LD50 Rabbit, dermal: (estimated, manufacturer information) > 2000 mg/kg
 LC50 Rat, inhalative: (estimated (Dusts/Mist), manufacturer information) 3.3 mg/L/4h

Toxicological effects: Acute toxicity (oral): Lack of data.
 Acute toxicity (dermal): Lack of data.
 Acute toxicity (inhalative): Acute Toxicity - inhalative - Category 4 = Harmful if inhaled.
 Skin corrosion/irritation: Skin Irritation - Category 2 = Causes skin irritation.
 Serious eye damage/irritation: Eye Irritation - Category 2A = Causes serious eye irritation.
 Sensitisation to the respiratory tract: Respiratory Sensitizer - Category 1 = May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 Skin sensitisation: Sensitization - skin - Category 1 = May cause an allergic skin reaction.
 Germ cell mutagenicity/Genotoxicity: Lack of data.
 Carcinogenicity: Lack of data.
 Reproductive toxicity: Lack of data.
 Effects on or via lactation: Lack of data.
 Specific target organ toxicity (single exposure): Lack of data.
 Specific target organ toxicity (repeated exposure): Lack of data.
 Aspiration hazard: Lack of data.

Other information: May cause sensitization by inhalation and skin contact. Pre-existing skin and respiratory conditions including dermatitis, asthma and chronic lung disease might be aggravated by exposure.

Dicyclohexylmethan-4,4' diisocyanate:
 LD50 Rat, oral: > 18 g/kg;
 LD50 Rabbit, dermal: > 7900 mg/kg;
 LC50 Rat, inhalative 0.33 mg/L/4h.

12. Ecological information

Ecotoxicity

Aquatic toxicity: Harmful to aquatic life with long lasting effects.
 The product has not been tested. The statement is derived from the properties of the single components.

Mobility in soil

No data available

Persistence and degradability

Further details: No data available

Additional ecological information

General information: Do not allow to penetrate into soil, waterbodies or drains.

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13. Disposal considerations

Product

Recommendation: Incinerate as hazardous waste according to applicable local, state, and federal regulations.

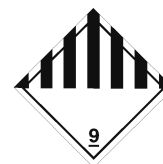
Contaminated packaging

Recommendation: Dispose of waste according to applicable legislation.

14. Transport information

USA: Department of Transportation (DOT)

Identification number: UN3334
 Proper shipping name: UN 3334, UN 3334, AVIATION REGULATED LIQUID, N.O.S. (Dicyclohexylmethan-4,4' diisocyanate)
 Hazard class or Division: 9
 Labels: 9
 Symbols: A G
 Special provisions: A35, A189
 Packaging – Exceptions: 155
 Packaging – Non-bulk: 204
 Quantity limitations – Passenger aircraft / rail: 450L
 Quantity limitations – Cargo only: 450L
 Vessel stowage – Location: A



Sea transport (IMDG)

UN number: UN 3334
 Proper shipping name: UN 3334, AVIATION REGULATED LIQUID, N.O.S. (Dicyclohexylmethan-4,4' diisocyanate)
 Class or division, Subsidiary risk: Class 9, Subrisk -
 Packing Group: -
 EmS: -
 Special provisions: 960
 Limited quantities: -
 Excepted quantities: -
 Contaminated packaging - Instructions: -
 Contaminated packaging - Provisions: -
 IBC - Instructions: -
 IBC - Provisions: -
 Tank instructions - IMO: -
 Tank instructions - UN: -
 Tank instructions - Provisions: -
 Properties and observations: Not subject to the provisions of this Code but may be subject to provisions governing the transport of dangerous goods by other modes.
 Marine pollutant: no
 Segregation group: none
 Remarks: No dangerous good in sense of these transport regulations.

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Air transport (IATA)

UN/ID number: UN 3334
 Proper shipping name: UN 3334, AVIATION REGULATED LIQUID, N.O.S. (Dicyclohexylmethan-4,4' diisocyanate)
 Class or division, Subsidiary risk: Class 9
 Packing Group: III
 Hazard label: Miscellaneous
 Excepted Quantity Code: E1
 Passenger and Cargo Aircraft: Ltd.Qty.: Pack.Instr. Y964 - Max. Net Qty/Pkg. 30 kg G
 Passenger and Cargo Aircraft: Pack.Instr. 964 - Max. Net Qty/Pkg. 450 L
 Cargo Aircraft only: Pack.Instr. 964 - Max. Net Qty/Pkg. 450 L
 Special provisions: A27
 Emergency Response Guide-Code (ERG): 9A

15. Regulatory information

National regulations - U.S. Federal Regulations

Product: TSCA: This product is manufactured in compliance with all provisions of the Toxic Substances Control Act. 15 U.S.C. All ingredients are listed or need not be listed.
 Dicyclohexylmethan-4,4' diisocyanate: Other Environmental Laws:
 SARA Title III Section 313, Toxic Release: Conc. 1.0%
 NIOSH Recommendations:
 Occupational Health Guideline: 0412

National regulations - U.S. State Regulations

Dicyclohexylmethan-4,4' diisocyanate: California Proposition 65 code: not listed
 Delaware Air Quality Management List:
 DRQ: 100 - RQ State: State requirement differs from Federal
 Idaho Air Pollutant List:
 Title 585: AAC: 0.0055 - EL: 0.007 - OEL: 0.11 - Title 586: -
 Massachusetts Haz. Substance codes: 2,4 F8 F9
 Minnesota Haz. Substance:
 Codes: N - Ratings: -- - Status: Title III.
 Pennsylvania Haz. Substance code: -
 Washington Air Contaminant:
 Ceiling: 0.01 ppm - 0.11 mg

National regulations - Canada

DSL: Components of this product have been reported to Environment Canada in accordance with subsection 25 of the Canadian Environmental Protection Act and are included on the Domestic Substances List. All ingredients are listed or need not be listed.

National regulations - Great Britain

Hazchem-Code: 2Z

16. Other information

Text for labeling: Contains 5 - 10 % Dicyclohexylmethan-4,4' diisocyanate, 65 - 95 % Polyurethane Prepolymer. Safety data sheet available on request.

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Hazard rating systems:



NFPA Hazard Rating:

Health: 2 (Moderate)

Fire: 1 (Slight)

Reactivity: 1 (Slight)

HMIS Version III Rating:

Health: 2 (Moderate)

Flammability: 1 (Slight)

Physical Hazard: 1 (Slight)

Personal Protection: X = Consult your supervisor

HEALTH	2
FLAMMABILITY	1
PHYSICAL HAZARD	1
	X

Reason of change:

Changes in section 1.3: Corporate headquarters

Date of first version:

1/15/2015

Department issuing data sheet

Contact person:

see section 1: Dept. responsible for information

The information in this data sheet has been established to our best knowledge and was up-to-date at time of revision. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations.