

1. Product and company identification

Product identifier

Trade name: 636W28=B - Special Glue Part B

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

General use: Adhesive for orthopedic procedures.
Reserved for industrial and professional use.

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: Physical state at 68 °F and 101.3 kPa: liquid

Form: pasty

Color: beige

Odor: amine odor

Classification: Acute Toxicity - inhalative - Category 3; Skin Corrosion - Category 1B; Eye Damage - Category 1; Sensitization - skin - Category 1; Reproductive toxicant - Category 1B; Aquatic toxicity - chronic - Category 2;

Hazard symbols:



Signal word: **Danger**

Hazard statements: Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
Toxic if inhaled.
May damage fertility.
Toxic to aquatic life with long lasting effects.

Precautionary statements: Obtain special instructions before use.
Do not breathe mist/vapors/spray.
Avoid release to the environment.
Wear protective gloves and eye protection.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/or shower.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER/doctor.
Collect spillage.
Store in a well-ventilated place. Keep container tightly closed.

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

Damages of health may occur with delay.
Special danger of slipping by leaking/spilling product.
see section 11: Toxicological information

3. Composition / Information on ingredients

Chemical characterization: Mixture of the substances listed below with non-hazardous additions

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Relevant ingredients:

CAS No.	Designation	Content	Classification
CAS 68154-62-1	Reaction products of fatty acid dimers and trimers, C18 (unsaturated) alkyl and fatty acids, C18 (unsaturated) alkyl with amines, polyethylenepoly-, triethylenetetramine fraction	< 60 %	Skin Irritation - Category 2. Eye Damage - Category 1. Sensitization - skin - Category 1. Aquatic toxicity - chronic - Category 2.
CAS 68154-62-1	Reaction products of fatty acid dimers and trimers, C18 (unsaturated) alkyl and fatty acids, C18 (unsaturated) alkyl with amines, polyethylenepoly-, triethylenetetramine fraction (polymerized)	< 30 %	Skin Irritation - Category 2. Eye Irritation - Category 2A. Sensitization - skin - Category 1. Aquatic toxicity - chronic - Category 3.
CAS 111-40-0	Diethylenetriamine	< 7 %	Acute Toxicity - oral - Category 4. Acute Toxicity - dermal - Category 4. Acute Toxicity - inhalative - Category 2. Skin Corrosion - Category 1B. Eye Damage - Category 1. Sensitization - skin - Category 1. Specific Target Organ Toxicity (Single Exposure) - Category 3.
CAS 80-05-7	4,4'-Isopropylidenediphenol	< 7 %	Eye Damage - Category 1. Sensitization - skin - Category 1. Reproductive toxicant - Category 1B. Specific Target Organ Toxicity (Single Exposure) - Category 3. Aquatic toxicity - chronic - Category 2.
CAS 90640-67-8	Amines, polyethylenepoly-, triethylenetetramine fraction	< 1 %	Acute Toxicity - oral - Category 4. Acute Toxicity - dermal - Category 4. Skin Corrosion - Category 1B. Sensitization - skin - Category 1. Aquatic toxicity - chronic - Category 3.

4. First aid measures

General information:	If medical advice is needed, have product container or label at hand. First aider: Pay attention to self-protection!
In case of inhalation:	Move victim to fresh air; if necessary, provide artificial respiration or oxygen. Consult doctor afterwards.
Following skin contact:	Take off immediately all contaminated clothing and wash it before reuse. After contact with skin, wash immediately with soap and plenty of water. Immediately get medical attention.

After eye contact: Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. Subsequently seek the immediate attention of an ophthalmologist.

After swallowing: Rinse mouth with water. Have victim drink large quantities of water, with active charcoal if possible.
Do not induce vomiting.
In case of vomiting, position victim on their side. Never give anything by mouth to an unconscious person. Immediately get medical attention.

Most important symptoms/effects, acute and delayed

Causes severe skin burns and eye damage.
May cause an allergic skin reaction. Harmful if inhaled.
In case of inhalation: Mucous membrane irritation, cough, shortage of breath.
Other symptoms: Reddening, causes tears.
Damages of health may occur with delay.

Information to physician

Treat symptomatically.
Symptoms of poisoning may develop several hours following exposure. Victim should be under medical observation for at least 48 hours after exposure.

5. Fire fighting measures

Flash point/flash point range:

255.2 °F (o.c.)

Auto-ignition temperature: No data available

Suitable extinguishing media:

Water spray jet, foam, dry chemical powder, carbon dioxide.

Extinguishing media which must not be used for safety reasons:

Full water jet

Specific hazards arising from the chemical

May form dangerous gases and vapours in case of fire.
Furthermore, there may develop: nitrous fumes nitrogen oxides (NOx), carbon monoxide and carbon dioxide

Protective equipment and precautions for firefighters:

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

Additional information:

Do not allow fire water to penetrate into surface or ground water. Cool exposed containers with water spray. Fire residuals and contaminated extinguishing water must be disposed of in accordance with the regulations of the local authorities.

6. Accidental release measures

Personal precautions:

Eliminate all ignition sources if safe to do so. Provide adequate ventilation.
Avoid contact with skin, eyes, and clothing. Do not breathe mist/vapors/spray.
Wear appropriate protective equipment. Take off immediately all contaminated clothing and wash it before reuse.
Keep unprotected people away. Avoid exposure.

Environmental precautions:

Do not allow to enter drains, surface waters, basements or pits. If necessary notify appropriate authorities.

Methods for clean-up: Carefully neutralize with acid. Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Place in appropriate containers for disposal.
Provide good ventilation.

Additional information: Special danger of slipping by leaking/spilling product.

7. Handling and storage

Handling

Advices on safe handling: Avoid exposure. Obtain special instructions before use. Provide adequate ventilation, and local exhaust as needed.

Avoid the formation of aerosol. Avoid contact with skin, eyes, and clothing.
Do not breathe mist/vapors/spray. Wear appropriate protective equipment. Take off immediately all contaminated clothing and wash it before reuse.
Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. When handling large quantities, supply emergency spray.

Precautions against fire and explosion:

Keep away from sources of ignition - No smoking.

Storage

Requirements for storerooms and containers:

Keep only in the original container.
Keep container tightly closed and dry.
Keep in a cool place. Recommended storage temperature: 35.6 - 104 °F

Hints on joint storage:

Avoid contact with strong acids, strong bases and strong oxidizing agents.
Keep away from food, drink and animal feedingstuffs.

8. Exposure controls / personal protection

Exposure guidelines

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value
111-40-0	Diethylenetriamine	USA: ACGIH: TWA	4.2 mg/m ³ ; 1 ppm
		USA: NIOSH: TWA	4 mg/m ³ ; 1 ppm

Engineering controls

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: Butyl caoutchouc (butyl rubber), ethylene vinyl alcohol laminate (EVAL), Nitrile rubber
Breakthrough time: >480 min.
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. Use filter type A-P according to OSHA Standard - 29 CFR: 1910.134 or ANSI Z88.2.

General hygiene considerations:

Obtain special instructions before use.
 Avoid contact with skin and eyes.
 Keep away from sources of ignition - No smoking.
 Wash hands before breaks and after work.
 Do not breathe mist/vapors/spray.
 Keep away from food, drink and animal feedingstuffs.
 Take off immediately all contaminated clothing and wash it before reuse. Work place should be equipped with a shower and an eye rinsing apparatus.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance:	Physical state at 68 °F and 101.3 kPa: liquid Form: paste Color: beige
Odor:	amine odor
Odor threshold:	No data available
pH value:	at 77 °F: 12
Melting point/freezing point:	No data available
Initial boiling point and boiling range:	No data available
Flash point/flash point range:	255.2 °F (o.c.)
Evaporation rate:	No data available
Flammability:	No data available
Explosion limits:	No data available
Vapor pressure:	at 68 °F: approx. 0.04 hPa
Vapor density:	No data available
Density:	at 77 °F: 0.9 g/mL
Water solubility:	at 68 °F: insoluble
Partition coefficient: n-octanol/water:	at 68 °F: Information about Triethyltetramine -2.65 log P(o/w) (OECD 117) Based on the n-octanol/water partition coefficient accumulation in organisms is not expected. at 68 °F: Information about Diethylenetriamine -1.58 log P(o/w) (pH = 7) Based on the n-octanol/water partition coefficient accumulation in organisms is not expected.
Auto-ignition temperature:	No data available
Thermal decomposition:	>200°C
Additional information:	No data available

10. Stability and reactivity

Reactivity:	Refer to subsection "Possibility of hazardous reactions".
Chemical stability:	Stable under recommended storage conditions.

Possibility of hazardous reactions

No hazardous reaction when handled and stored according to provisions.

Conditions to avoid: No data available

Incompatible materials: No data available

Hazardous decomposition products:

carbon monoxide and carbon dioxide

Thermal decomposition: >200°C

11. Toxicological information

Toxicological tests

Toxicological effects: The statements are derived from the properties of the single components. No toxicological data is available for the product as such.

Acute toxicity (oral): Based on available data, the classification criteria are not met.
ATEmix calculated: > 5,000 mg/kg.

Acute toxicity (dermal): Based on available data, the classification criteria are not met.
ATEmix calculated: > 5,000 mg/kg.

Acute toxicity (inhalative): Acute Toxicity - inhalative -
Category 3 = Toxic if inhaled. ATEmix calculated (Dusts/mist): $0.5 < ATE \leq 1$ mg/L.

Skin corrosion/irritation: Skin Corrosion -
Category 1B = Causes severe skin burns and eye damage.

Serious eye damage/irritation: Eye Damage - Category 1 = Causes serious eye damage.

Sensitisation to the respiratory tract: Lack of data.

Skin sensitisation: Sensitization - skin - Category 1 = May cause an allergic skin reaction.

Germ cell mutagenicity/Genotoxicity: Based on available data, the classification criteria are not met.

Information about Reaction products of fatty acid dimers and trimers, C18 (unsaturated) alkyl and fatty acids, C18 (unsaturated) alkyl with amines, polyethylenepoly-, triethylenetetramine fraction:
OECD 471 (Ames test) = negative
OECD 476 = negative
OECD 487 = negative

Information about 4,4'-Isopropylidenediphenol:
OECD 487 = negative
OECD 474 = negative

Information about Amines, polyethylenepoly-, triethylenetetramine fraction:
OECD 482 = negative (0 - 200 µg/L)
OECD 474 = negative (0 - 600 mg/kg)

Information about Diethylenetriamine:
OECD 474 = negative (85 - 850 µg/L)

Carcinogenicity: Based on available data, the classification criteria are not met.

Information about Diethylenetriamine:
Mouse, dermal intake and impact (118.9 mg/kg/d) = negative

Information about 4,4'-Isopropylidenediphenol:
Rat, oral intake exceeding 721 d = negative

Information about Amines, polyethylenepoly-, triethylenetetramine fraction:
Mouse, dermal intake and impact (OECD 451, 126 mg/kg/d) = negative

Reproductive toxicity: Reproductive toxicant - Category 1B = May damage fertility.

Effects on or via lactation: Lack of data.

Specific target organ toxicity (single exposure): Lack of data.

Specific target organ toxicity (repeated exposure): Based on available data, the classification criteria are not met.

Information about Reaction products of fatty acid dimers and trimers, C18 (unsaturated) alkyl and fatty acids, C18 (unsaturated) alkyl with amines, polyethylenepoly-, triethylenetetramine fraction:
Specific symptoms in animal studies, Rat, oral: NOAEL 1,000 mg/kg bw/day

Information about Diethylenetriamine:
Specific symptoms in animal studies, Rat, oral: NOAEL 114 mg/kg bw/day

Information about 4,4'-Isopropylidenediphenol:
Specific symptoms in animal studies, Rat, oral: LOAEL 600 mg/kg bw/day

Information about Amines, polyethylenepoly-, triethylenetetramine fraction:
Specific symptoms in animal studies, Rat, oral: NOAEL 50 mg/kg bw/day

Aspiration hazard: Lack of data.

Other information:

Information about Diethylenetriamine:

LD50 Rat, oral: 1,553 mg/kg bw

NOEL Rat, inhalative (Dusts/mist): > 0.07 mg/L/4h

LD50 Rabbit, dermal: > 1,045 mg/kg bw/24h

Information about Amines, polyethylenepoly-, triethylenetetramine fraction: LD50 Rat, oral: 1,862 mg/kg bw

LD50 Rabbit, dermal: > 1,465 mg/kg bw/24h

Symptoms

In case of inhalation:

Information about 4,4'-Isopropylidenediphenol and Triethylenetetramine: Mucous membrane irritation, cough, shortage of breath.

In case of ingestion: Risk of perforation in the oesophagus and stomach.

After contact with skin: Reddening. Danger of cutaneous absorption.

After eye contact: Reddening, causes tears.

12. Ecological information

Ecotoxicity

Aquatic toxicity:

Toxic to aquatic life with long lasting effects.

Information about Reaction products of fatty acid dimers and trimers, C18 (unsaturated) alkyl and fatty acids, C18 (unsaturated) alkyl with amines, polyethylenepoly-, triethylenetetramine fraction:

Fish toxicity:

LC50 Brachydanio rerio (zebra-fish) = 7.07 mg/L/96h (OECD 203)

Daphnia toxicity:

EC50 Daphnia magna (Big water flea): 5.18 mg/L/48h (OECD 202)

Algae toxicity:

ErC50 Selenastrum capricornutum: 2.43 mg/L/72h (OECD 201)

Bacterial toxicity:

EC50 activated sludge: 421 mg/L/3h (OECD 209)

Information about Triethylenetetramine:

Fish toxicity: LC50 Pimephales promelas (fathead minnow): 330 mg/L /96 h.

Daphnia toxicity:

EC50 Daphnia magna (Big water flea): 31.1 mg/L/48h (EG, C.2)

Daphnia toxicity: Chronic toxicity:

EC10 1.9 mg/L/21d (OECD 202)

Algae toxicity:

ErC50 Selenastrum capricornutum: 20 mg/L/72h (OECD 201)

Bacterial toxicity:

EC50 activated sludge: 800 mg/L/0,5h (OECD 209)

Information about 4,4'-Isopropylidenediphenol:

Fish toxicity:

LC50 Oncorhynchus mykiss = 7.5 mg/L/96h

Chronic toxicity:

NOEC 0.016 mg/L/444d

Daphnia toxicity:

EC50 Daphnia magna (Big water flea): 3.9 - 10.2 mg/L/48h

Algae toxicity:

ErC50 Selenastrum capricornutum: 2.5 - 3.1 mg/L/96h

Bacterial toxicity:

EC50 activated sludge: 421 mg/L/3h (OECD 209)

Information about Diethylenetriamine:

Fish toxicity:

LC50 = 430 mg/L/96h (EG; C.1)

Chronic toxicity:

NOEC 10 mg/L/28d (OECD 210)

Daphnia toxicity:

EC50 Daphnia magna (Big water flea): 32 mg/L/48h

Chronic toxicity:

NOEC 5.6 mg/L/21d (EG; C.20)

Algae toxicity:

EbC50 Selenastrum capricornutum: 1,146 mg/L/72h

Mobility in soil

Information about Diethylenetriamine:

Koc 19,111

Information about triethylenetetramine:

Koc 1589.4 - 19,111 (OECD 106)

Persistence and degradability

Further details:

Information about Diethylenetriamine:

Biodegradation: 87 %/21d : Product is readily biodegradable.

Photolysis: 50 %

Information about Triethylenetetramine:

Biodegradation: 0 % / 162d (OECD 301D) Product is not readily biodegradable.

Additional ecological information

Volatile organic compounds (VOC):

0 % by weight

General information:

Do not allow to enter into ground-water, surface water or drains.

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. Do not re-use the empty container.

14. Transport information

USA: Department of Transportation (DOT)

Identification number: UN3265
 Proper shipping name: UN 3265, UN 3265, CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Diethylenetriamine)
 Hazard class or Division: 8
 Packing Group: II
 Labels: 8
 Symbols: G
 Special provisions: B2, IB2, T11, TP2, TP27
 Packaging – Exceptions: 154
 Packaging – Non-bulk: 202
 Packaging – Bulk: 242
 Quantity limitations – Passenger aircraft / rail: 1 L
 Quantity limitations – Cargo only: 30 L
 Vessel stowage – Location: B
 Vessel stowage – Other: 40



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Sea transport (IMDG)

UN number: UN 3265
 Proper shipping name: UN 3265, CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Diethylenetriamine)
 Class or division, Subsidiary risk: Class 8, Subrisk -
 Packing Group: II
 EmS: F-A, S-B
 Special provisions: 274
 Limited quantities: 1 L
 Excepted quantities: E2
 Contaminated packaging - Instructions: P001
 Contaminated packaging - Provisions: -
 IBC - Instructions: IBC02
 IBC - Provisions: -
 Tank instructions - IMO: -
 Tank instructions - UN: T11
 Tank instructions - Provisions: TP2, TP27
 Stowage and handling: Category B. SW2
 Properties and observations: Causes burns to skin, eyes and mucous membranes.
 Marine pollutant: yes
 Segregation group: 1

Air transport (IATA)

UN/ID number: UN 3265
 Proper shipping name: UN 3265, CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Diethylenetriamine)
 Class or division, Subsidiary risk: Class 8
 Packing Group: II
 Hazard label: Corrosive
 Excepted Quantity Code: E2
 Passenger and Cargo Aircraft: Ltd.Qty.: Pack.Instr. Y840 - Max. Net Qty/Pkg. 0.5 L
 Passenger and Cargo Aircraft: Pack.Instr. 851 - Max. Net Qty/Pkg. 1 L
 Cargo Aircraft only: Pack.Instr. 855 - Max. Net Qty/Pkg. 30 L
 Special provisions: A3 A803
 Emergency Response Guide-Code (ERG): 8L

15. Regulatory information

National regulations - U.S. Federal Regulations

Diethylenetriamine: TSCA listed
 4,4'-Isopropylidenediphenol: TSCA Inventory: listed
 TSCA HPVC: not listed
 Clean Air Act:
 Hazardous Air Pollutants: yes
 SOCM Chemical: yes
 Other Environmental Laws:
 SARA Title III Section 313, Toxic Release: Conc. 1.0% / Threshold Standard

National regulations - U.S. State Regulations

Diethylenetriamine: California Proposition 65 code: -
 Idaho Air Pollutant List:
 Title 585: AAC: 0.2 - EL: 0.267 - OEL: 4 - Title 586: -
 Massachusetts Haz. Substance codes: 4,5,6
 Minnesota Haz. Substance:
 Codes: A - Ratings: -
 Pennsylvania Haz. Substance code: -
 Washington Air Contaminant:
 TWA: 1 ppm - 4 mg
 Skin: Protective measures should be taken to prevent or reduce skin absorption.

4,4'-Isopropylidenediphenol: California Proposition 65 code: -
 Delaware Air Quality Management List:
 DRQ: 100 - RQ State: State requirement differs from Federal
 Massachusetts Haz. Substance codes: F9
 New Jersey RTK Hazardous Substance:
 DOT: -- - Sub No.: 2388 - TPQ: -
 Pennsylvania Haz. Substance code: E
 California Proposition 65: female
 Rhode Island HSL: listed

National regulations - Great Britain

Hazchem-Code: 2X

16. Other information

Text for labeling: Contains < 60 % Reaction products of fatty acid dimers and trimers, C18 (unsaturated) alkyl and fatty acids, C18 (unsaturated) alkyl with amines, polyethylenepoly-, triethylenetetramine fraction, < 30 % Reaction products of fatty acid dimers and trimers, C18 (unsaturated) alkyl and fatty acids, C18 (unsaturated) alkyl with amines, polyethylenepoly-, triethylenetetramine fraction (polymerized), < 7 % Diethylenetriamine, < 7 % 4,4'-Isopropylidenediphenol, < 1 % Amines, polyethylenepoly-, triethylenetetramine fraction. Safety data sheet available on request.

Hazard rating systems:



NFPA Hazard Rating:

Health: 3 (Serious)
 Fire: 1 (Slight)
 Reactivity: 0 (Minimal)

HMIS Version III Rating:

Health: 3 (Serious) - Chronic effects
 Flammability: 1 (Slight)
 Physical Hazard: 0 (Minimal)
 Personal Protection: X = Consult your supervisor

HEALTH	*	3
FLAMMABILITY		1
PHYSICAL HAZARD		0
X		

Reason of change: Changes in section 1.3: Corporate headquarters

Date of first version: 10/30/1994

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.