

1. Product and company identification

Product identifier

Trade name: 636W22 - UHU Cement

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

Department 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

Color: colorless

Odor: ester-like

Classification: Flammable Liquid - Category 2. Eye Irritation - Category 2A.
Specific Target Organ Toxicity (Single Exposure) - Category 3.

Hazard symbols:



Signal word: **Danger**

Hazard statements: Highly flammable liquid and vapor.
Causes serious eye irritation.
May cause drowsiness or dizziness.

Precautionary statements:

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Keep container tightly closed.
Avoid breathing vapors.
Wear protective gloves/protective clothing/eye protection.
Call a POISON CENTER/doctor if you feel unwell.
Store in a well-ventilated place. Keep cool.

Regulatory status

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

Hazards not otherwise classified

Potentially explosive mixtures may form if adequate ventilation is not provided.
Inhaling can lead to irritations of the respiratory tract and mucous membrane.
Higher doses may lead to a narcotic effect.
Special danger of slipping by leaking/spilling product.
see section 11: Toxicological information

3. Composition / Information on ingredients

Chemical characterization: Solvent-containing adhesive on the basis of cellulose nitrate

Relevant ingredients:

CAS No.	Designation	Concentration	Classification
CAS 79-20-9	Methyl acetate	50 - 100 %	Flammable Liquid - Category 2. Eye Irritation - Category 2A. Specific Target Organ Toxicity (Single Exposure) - Category 3.
CAS 9004-70-0	Nitrocellulose solutions, with not more than 12,6% nitrogen, by dry mass, and not more than 55% nitrocellulose	25 - 50 %	Flammable Solid - Category 1.
CAS 123-86-4	n-Butyl acetate	2.5 - 10 %	Flammable Liquid - Category 3. Specific Target Organ Toxicity (Single Exposure) - Category 3.

4. First aid measures

General information: If medical advice is needed, have product container or label at hand. Take off contaminated clothing and wash it before reuse.

In case of inhalation: Move victim to fresh air, put at rest and loosen restrictive clothing.
Seek medical aid in case of troubles.

Following skin contact: After contact with skin, wash immediately with soap and plenty of water. In case of skin reactions, consult a physician.

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 consult an ophthalmologist.

After swallowing: Do not induce vomiting. Rinse mouth with water. Never give anything by mouth to an unconscious person. Immediately get medical attention.

Most important symptoms/effects, acute and delayed

Causes serious eye irritation. May cause drowsiness or dizziness. Repeated exposure may cause skin dryness or cracking.

Information to physician

Treat symptomatically.

5. Fire fighting measures

Flash point/flash point range:

14 °F

Auto-ignition temperature: not self-igniting

Suitable extinguishing media:

Water spray jet, dry chemical powder, alcohol resistant foam, carbon dioxide

Extinguishing media which must not be used for safety reasons:

Full water jet

Specific hazards arising from the chemical

Highly flammable liquid and vapor. Vapors form potentially explosive mixtures with air, which are heavier than air. Air-Vapor mixture may travel great distances at floor level and lead to backflash when exposed to an ignition source.

In case of fire may be liberated: Nitrogen oxides (NO_x), 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:

Heating will lead to pressure increase: Danger of bursting and explosion. Cool endangered containers with water spray and, if possible, remove from danger zone.

Do not allow fire water to penetrate into surface or ground water. 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:

Provide adequate ventilation. Eliminate all ignition sources if safe to do so.

Avoid breathing mist/vapors/spray. Avoid contact with the substance.

Wear appropriate protective equipment. Take off contaminated clothing and wash it before reuse. Keep unprotected people away.

Environmental precautions:

Do not allow to enter into surface water or drains.

Methods for clean-up:

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.

Additional information:

Use explosion-proof equipment and non-sparking tools/utensils.

Special danger of slipping by leaking/spilling product.

7. Handling and storage

Handling

Advices on safe handling: Provide adequate ventilation, and local exhaust as needed.
Avoid breathing mist/vapors/spray. Avoid contact with the substance. Wear appropriate protective equipment. Take off contaminated clothing and wash it before reuse. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Guarantee sufficient ventilation during and after use, in order to prevent vapor accumulation. Have eye wash bottle or eye rinse ready at work place. When handling large quantities, supply emergency spray.

Precautions against fire and explosion:
Highly flammable liquid and vapor. Ignition by hot surfaces, sparks and open flames. Take precautionary measures against static discharges. Keep away from heat. Keep away from sources of ignition.

Storage

Requirements for storerooms and containers:
Keep container tightly closed in a cool, well-ventilated place. Keep container dry. Keep only in the original container.
Protect from heat and direct sunlight. Store containers in upright position.

Hints on joint storage: Do not store together with combustible materials or highly flammable solids. Substances to avoid: Acids, alkalis. 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
79-20-9	Methyl acetate	USA: ACGIH: STEL	757 mg/m ³ ; 250 ppm
		USA: ACGIH: TWA	606 mg/m ³ ; 200 ppm
		USA: IDLH: TWA	3,100 ppm [10% LEL]
		USA: NIOSH: STEL	760 mg/m ³ ; 250 ppm
		USA: NIOSH: TWA	610 mg/m ³ ; 200 ppm
		USA: OSHA: TWA	610 mg/m ³ ; 200 ppm
123-86-4	n-Butyl acetate	USA: ACGIH: STEL	150 ppm
		USA: ACGIH: TWA	50 ppm
		USA: IDLH: TWA	1,700 ppm
		USA: NIOSH: STEL	950 mg/m ³ ; 200 ppm
		USA: NIOSH: TWA	710 mg/m ³ ; 150 ppm
		USA: OSHA: TWA	710 mg/m ³ ; 150 ppm

Engineering controls

Make sure there is sufficient air exchange and / or that working rooms are air suctioned. 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.

In case of handling larger quantities: protective gloves according to OSHA Standard - 29 CFR: 1910.138.

Glove material: butyl caoutchouc (butyl rubber)

Layer thickness: 0.6 - 0.8 mm

Breakthrough time: 60 - 120 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 (= against vapors of organic substances) according to OSHA Standard - 29 CFR: 1910.134 or ANSI Z88.2.

General hygiene considerations:

Avoid breathing mist/vapors/spray. Avoid contact with the substance. Take off contaminated clothing and wash it before reuse. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

Guarantee sufficient ventilation during and after use, in order to prevent vapor accumulation. Have eye wash bottle or eye rinse ready at work place. When handling large quantities, supply emergency spray.

Environmental exposure controls

Refer to 6.: Section "Environmental precautions".

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance:	Physical state at 68 °F and 101.3 kPa: liquid Color: colorless
Odor:	ester-like
Odor threshold:	No data available
pH:	No data available
Melting point/freezing point:	No data available
Initial boiling point and boiling range:	134.6 °F (DIN 53171)
Flash point/flash point range:	14 °F
Evaporation rate:	No data available
Flammability:	No data available
Explosion limits:	LEL (Lower Explosion Limit): 3.10 Vol-% UEL (Upper Explosive Limit): 16.00 Vol-%
Vapor pressure:	at 68 °F: 220 hPa
Vapor density:	No data available
Density:	at 68 °F: 1.11495 g/mL
Solubility:	at 68 °F: various organic solvents
Water solubility:	at 68 °F: immiscible
Partition coefficient: n-octanol/water:	No data available
Auto-ignition temperature:	not self-igniting
Thermal decomposition:	No data available
Viscosity, dynamic:	at 68 °F: 9,000 mPa*s
Explosive properties:	Vapors may form explosive mixtures with air.
Ignition temperature:	356 °F
Solvent content:	68.7 %
Solid content:	31.3 %

10. Stability and reactivity

Reactivity:	Highly flammable liquid and vapor. Vapors may form explosive mixtures with air.
Chemical stability:	Stable under recommended storage conditions.
Possibility of hazardous reactions:	Heating will lead to pressure increase: Danger of bursting and explosion.
Conditions to avoid:	Take precautionary measures against static discharge. Keep away from heat. Keep away from sources of ignition. Information about Methyl acetate: Contact with water causes product to separate into acetic acid and methyl alcohol.
Incompatible materials:	Acids, alkalis
Hazardous decomposition products:	No hazardous decomposition products when regulations for storage and handling are observed.
Thermal decomposition:	No data available

11. Toxicological information

Toxicological tests

<p>Toxicological effects:</p> <p>The statements are derived from the properties of the single components. No toxicological data is available for the product as such.</p> <p>Acute toxicity (oral): Lack of data.</p> <p>Acute toxicity (dermal): Lack of data.</p> <p>Acute toxicity (inhalative): Lack of data.</p> <p>Skin corrosion/irritation: Based on available data, the classification criteria are not met.</p> <p>Serious eye damage/irritation: Eye Irritation - Category 2A = Causes serious eye irritation.</p> <p>Sensitisation to the respiratory tract: Based on available data, the classification criteria are not met.</p> <p>Skin sensitisation: Based on available data, the classification criteria are not met.</p> <p>Germ cell mutagenicity/Genotoxicity: Based on available data, the classification criteria are not met.</p> <p>Carcinogenicity: Based on available data, the classification criteria are not met.</p> <p>Reproductive toxicity: Based on available data, the classification criteria are not met.</p> <p>Effects on or via lactation: Lack of data.</p> <p>Specific target organ toxicity (single exposure): Specific Target Organ Toxicity (Single Exposure) - Category 3 = May cause drowsiness or dizziness.</p> <p>Specific target organ toxicity (repeated exposure): Based on available data, the classification criteria are not met.</p> <p>Aspiration hazard: Based on available data, the classification criteria are not met.</p>	
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Other information:

Information about methyl acetate:

LD50 Rat, oral: 6,482 mg/kg (OECD 401)

LD50 Rat, dermal: > 2,000 mg/kg (OECD 402)

LC50 Rabbit, inhalative (vapor): 49,200 mg/m³

Information about n-Butyl acetate:

LD50 Rat, oral: 10,760 mg/kg (OECD 423)

LD50 Rabbit, dermal: 14,112 mg/kg (OECD 402)

Symptoms

Methyl acetate has a narcotic and depressive effect on the central nervous system especially in vapor form. Possible subsequent damage to the optical nerv. Measurably irritates the eyes and respiratory system. In severe cases, pneumonia or a pulmonary edema may develop.

symptoms:

Eye, nose, throat irritation, headache, at higher concentrations dizziness and nausea, unconsciousness and apnea.

Short term effect:

A concentration that is hazardous to health occurs rapidly. Long exposure to vapor saturated air may cause serious damage with lasting side effects.

In case of inhalation: Vapors may cause drowsiness and dizziness.

12. Ecological information

Ecotoxicity

Aquatic toxicity:

Information about methyl acetate:

Fish toxicity:

LC50 Danio rerio (zebrafish): 250 - 350 mg/L/96h (OECD 203)

Daphnia toxicity:

EC50 Daphnia magna (Big water flea): 1026.7 mg/L/48h (OECD 202)

Algae toxicity:

EC50 Desmodesmus subspicatus (green algae), growth rate: > 120 mg/L/72h (OECD 201)

Information about n-Butyl acetate:

Fish toxicity:

LC50 Pimephales promelas (fathead minnow): 18 mg/L/96h (OECD 203)

Daphnia toxicity:

EC50 Ceriodaphnia spec.: 44 mg/L/48h (OECD 202)

NOEC Daphnia magna (Big water flea): 23 mg/L/21d (OECD 211, read across)

Algae toxicity:

EC50 Desmodesmus subspicatus (green algae), growth rate: 397 mg/L/72h (OECD 201, read across)

Mobility in soil

No data available

Persistence and degradability

Further details:

No data available

Additional ecological information

Volatile organic compounds (VOC):

68.7 % by weight / 705.12 g/L

General information:

Do not allow to penetrate into soil, waterbodies or drains. Avoid spills and leaks. Very small amounts contaminates drinking water.

13. Disposal considerations

Product

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

Package

Recommendation: Dispose of waste according to applicable legislation.

14. Transport information

UN number

ADR/RID, IMDG, IATA-DGR:

UN 1133

UN proper shipping name

ADR/RID, IMDG, IATA-DGR:

UN 1133, ADHESIVES

Transport hazard class(es)

ADR/RID:

Class 3, Code: F1

IMDG:

Class 3, Subrisk -

IATA-DGR:

Class 3



Packing group

ADR/RID, IMDG, IATA-DGR:

II

Environmental hazards

Marine pollutant:

no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No data available

USA: Department of Transportation (DOT)

Identification number: UN1133
 Proper shipping name: UN 1133, ADHESIVES
 Hazard class or Division: 3
 Packing Group: II
 Labels: 3
 Special Provisions: 149, B52, IB2, T4, TP1, TP8
 Packaging – Exceptions: 150
 Packaging – Non-bulk: 173
 Packaging – Bulk: 242
 Quantity limitations – Passenger aircraft / rail: 5 L
 Quantity limitations – Cargo only: 60 L
 Vessel stowage – Location: B
 Vessel stowage – Other:



Sea transport (IMDG)

UN number: UN 1133
 Proper shipping name: UN 1133, ADHESIVES
 Class or division, Subsidiary risk: Class 3, Subrisk -
 Packing Group: II
 EmS: F-E, S-D
 Special Provisions: -
 Limited quantities: 5 L
 Excepted quantities: E2
 Package - Instructions: P001
 Package - Provisions: PP1
 IBC - Instructions: IBC02
 IBC - Provisions: -
 Tank instructions - IMO: -
 Tank instructions - UN: T4
 Tank instructions - Provisions: TP1, TP8
 Stowage and handling: Category B.
 Properties and observations: Adhesives are solutions of gums, resins, etc., usually volatile due to the solvents. Miscibility with water depends upon their composition.
 Marine pollutant: no
 Segregation group: none

Air transport (IATA)

UN/ID number: UN 1133
 Proper shipping name: UN 1133, ADHESIVES
 Class or division, Subsidiary risk: Class 3
 Packing Group: II
 Hazard label: Flamm. liquid
 Excepted Quantity Code: E2
 Passenger and Cargo Aircraft: Ltd.Qty.: Pack.Instr. Y341 - Max. Net Qty/Pkg. 1 L
 Passenger and Cargo Aircraft: Pack.Instr. 353 - Max. Net Qty/Pkg. 5 L
 Cargo Aircraft only: Pack.Instr. 364 - Max. Net Qty/Pkg. 60 L
 Special Provisions: A3
 Emergency Response Guide-Code (ERG): 3L

15. Regulatory information

National regulations - U.S. Federal Regulations

Methyl acetate:

TSCA Inventory: listed

Clean Air Act:

CAA SOCM Chemical: yes

NIOSH Recommendations:

Occupational Health Guideline: 0391*

Nitrocellulose solutions, with not more than 12,6% nitrogen, by dry mass, and not more than 55% nitrocellulose:

TSCA Inventory: listed

OSHA Process Safety Management:

Threshold 02500 lbs.

n-Butyl acetate:

TSCA Inventory: listed

Clean Water Act:

CWA Hazardous Substances: RQ 5000 lbs.

Other Environmental Laws:

CERCLA: RQ 5000 lbs.

NIOSH Recommendations:

Occupational Health Guideline: 0072

National regulations - U.S. State Regulations

Methyl acetate:

Idaho Air Pollutant List:

Title 585: AAC: 30.5 - EL: 40.7 - OEL: 610

Massachusetts Haz. Substance codes: 2,4,5,6

Minnesota Haz. Substance:

Codes: AO - Ratings: -

Pennsylvania Haz. Substance code: -

Washington Air Contaminant:

TWA: 200 ppm - 610 mg - STEL: 250 ppm - 760 mg

Nitrocellulose solutions, with not more than 12,6% nitrogen, by dry mass, and not more than 55% nitrocellulose:

California Proposition 65 code: -

Delaware Air Quality Management List:

DRQ: 500 - RQ State: State requirement differs from Federal

Massachusetts Haz. Substance codes: 5,6

New Jersey RTK Hazardous Substance:

DOT: 0340 - Sub No.: 3642 - TPQ: -

Pennsylvania Haz. Substance code: -

n-Butyl acetate:

CAS# 123-86-4 can be found on the following state right to know lists:

- California, Massachusetts, Minnesota, New Jersey, Pennsylvania.

16. Other information

Text for labeling:

Contains 50 - 100 % Methyl acetate, 25 - 50 % Nitrocellulose solutions, with not more than 12,6% nitrogen, by dry mass, and not more than 55% nitrocellulose, 2.5 - 10 % n-Butyl acetate. Safety data sheet available on request.

Hazard rating systems:



NFPA Hazard Rating:

Health: 1 (Slight)

Fire: 3 (Serious)

Reactivity: 0 (Minimal)

HMIS Version III Rating:

Health: 1 (Slight)

Flammability: 3 (Serious)

Physical Hazard: 0 (Minimal)

Personal Protection: X = Consult your supervisor

HEALTH	1
FLAMMABILITY	3
PHYSICAL HAZARD	0
	X

Abbreviations and acronyms:

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
 ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
 AS/NZS: Australian Standards/New Zealand Standards
 CAS: Chemical Abstracts Service
 CFR: Code of Federal Regulations
 CLP: Classification, Labelling and Packaging
 CNS: Central Nervous System
 DMEL: Derived minimal effect level
 DNEL: Derived no-effect level
 EC: European Community
 EC50: Effective Concentration 50%
 EmS: Emergency Response Procedures for Ships Carrying Dangerous Goods
 EN: European Standard
 EQ: Excepted quantities
 Eye Irritation: Eye irritation
 Flammable Liquid: Flammable liquid
 Flammable Solid: Flammable solid
 IATA: International Air Transport Association
 IATA-DGR: International Air Transport Association – Dangerous Goods Regulations
 IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
 IMDG Code: International Maritime Dangerous Goods Code
 IMO: International Maritime Organization
 LC50: Median lethal concentration
 LD50: Lethal dose 50%
 LEL: Lower Explosion Limit
 MARPOL: Maritime Pollution: The International Convention for the Prevention of Pollution from Ships
 NOEC: No Observed Effect Concentration
 OECD: Organisation for Economic Co-operation and Development
 OEL: Occupational Exposure Limit Value
 OSHA: Occupational Safety and Health Administration
 PBT: Persistent, bioaccumulative and toxic
 PNEC: Predicted no-effect concentration
 RID: Regulations Concerning the International Carriage of Dangerous Goods by Rail
 STOT SE: Specific target organ toxicity - single exposure
 TLV: Threshold Limit Value
 TRGS: Technical Rules for Hazardous Substances
 UN: United Nations
 vPvB: Very persistent and very bioaccumulative
 WEL: Workplace Exposure Limit

Reason of change:

General revision

Date of first version:

9/27/1994

Department issuing data sheet

Contact person:

see section 1: Department 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.