

## 1. Product and company identification

### Product identifier

Trade name: 636W17 - Ultraflex Plastic Adhesive

### Recommended use and restrictions on use

General use: Synthetic adhesive for orthopedic procedures.  
Reserved for industrial and professional use.

### Initial supplier identifier

Company name: Otto Bock HealthCare Canada Ltd.

Street/POB-No.: 5470 Harvester Road

Postal Code, city: Burlington, ON L7L 5N5, CA  
Canada

WWW: www.ottobock.ca

E-mail: info.canada@ottobock.com

Telephone: (800) 665-3327

Telefax: (800) 463-3659

Department responsible for information:

Mark Agro, Telephone: (800) 665-3327 (9 am - 5 pm)

Additional information:

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

### Emergency phone number

**COLLECT, Telephone: (613) 996-6666**

**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 20 °C and 101.3 kPa: liquid

Color: Colorless

Odor: Characteristic

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

Avoid breathing mist/vapors/spray.

Wear protective gloves/protective clothing/eye protection.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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 WHMIS in Canada.

**Hazards not otherwise classified**

Higher doses may lead to a narcotic effect.

Potentially explosive mixtures may form if adequate ventilation is not provided.

Inhaling can lead to irritations of the respiratory tract and mucous membrane.

see section 11: Toxicological information

### 3. Composition / Information on ingredients

Chemical characterisation: Adhesive on the basis of Solution of polyurethane.

Relevant ingredients:

CAS No.	Designation	Concentration	Classification
CAS 67-64-1	Acetone	>= 50 %	Flammable Liquid 2. Eye Irritation 2A. Specific Target Organ Toxicity (Single Exposure) 3.
CAS 141-78-6	Ethyl acetate	25 - 50 %	Flammable Liquid 2. Eye Irritation 2A. Specific Target Organ Toxicity (Single Exposure) 3.

### 4. First aid measures

General information: IF exposed or concerned: Get medical advice/attention. First aider: Pay attention to self-protection!

In case of inhalation: Provide fresh air. Seek medical treatment in case of troubles.  
Monitor breathing. In case of irregular breathing or respiratory arrest provide artificial respiration. Seek medical attention.

Following skin contact: After contact with skin, wash immediately with soap and plenty of water.  
Take off contaminated clothing and wash it before reuse. 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 seek the immediate attention of an ophthalmologist.

After swallowing: Do NOT induce vomiting. Immediately get medical attention.

**Most important symptoms and effects, both 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:

-19 °C (DIN 53213)

Auto-ignition temperature: Not self-igniting

Suitable extinguishing media:

Water spray jet, alcohol resistant foam, extinguishing powder, carbon dioxide, Sand.  
Co-ordinate fire-fighting measures to the fire surroundings.

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.

On heating or in case of fire toxic gases may form.

In case of fire: NO<sub>x</sub> and decomposition products containing HCN may develop. carbon monoxide and carbon dioxide

Special protective equipment and precautions for fire-fighters:

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. Use fine water spray to cool endangered containers.

You have to dispose of contaminated extinguishing water according to the regulations of the authorities.

Do not inhale explosion and combustion gases.

## 6. Accidental release measures

Personal precautions:

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

If necessary: Use appropriate respiratory protection. Avoid breathing mist/vapors/spray.

Avoid contact with skin and eyes. Keep unprotected people away.

Wear protective equipment. Take off contaminated clothing and wash it before reuse.

Environmental precautions:

Do not allow to enter drains, basements or pits.

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

Methods for clean-up:

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents) and place in closed containers for disposal.

Do not remove residual product with water and detergent.

Additional information:

Use only explosion-protected equipment/instruments.

Vapors spread at floor level. Cover drainage holes and evacuate basement.

Beware of reignition.

Liquid evaporates very quickly.

Mixtures with 4% acetone mixed with 96% water still have a flash point of 54 °C. In case of important spills, risk of ignition of the acetone-water mixture. Potentially explosive mixtures with air may form above water surface.

## 7. Handling and storage

### Handling

Advices on safe handling: Provide adequate ventilation, and local exhaust as needed.  
 Avoid contact with skin and eyes. Avoid breathing mist/vapors/spray.  
 Wear protective equipment. Take off contaminated clothing and wash it before reuse.  
 Use local exhaust in the field of the processing equipment.  
 Have eye wash bottle or eye rinse ready at work place.  
 When handling large quantities, supply emergency spray.

Precautions against fire and explosion:

Vapors may form explosive mixtures with air.  
 Exposure to temperatures exceeding 50 °C will increase pressure: resulting in danger of bursting or explosion.  
 Keep away from sources of ignition - No smoking.  
 Take precautionary measures against static discharges.  
 Use only explosion-protected equipment/instruments.

### Storage

Requirements for storerooms and containers:

Keep container dry. Keep container tightly closed in a cool, well-ventilated place.  
 Protect against heat /sun rays. Protect from light.  
 Steel, stainless steel, and aluminium are stable container materials. Copper may be attacked.  
 In partially filled containers explosive mixtures may form.  
 storage temperature: 10 - 25 °C

Hints on joint storage:

Keep away from food, drink and animal feedingstuffs.  
 Keep away from: strong oxidizing agents, alkalis, amines

## 8. Exposure controls / personal protection

### Exposure guidelines

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value
67-64-1	Acetone	Canada: OEL 15 min	1,800 mg/m <sup>3</sup> ; 750 ppm
		Canada: OEL 8 hour	1,200 mg/m <sup>3</sup> ; 500 ppm
		Canada: OEL STEL	500 ppm
		Canada: OEL TWA	250 ppm
		Canada: VECD	500 ppm
		Canada: VEMP	250 ppm
141-78-6	Ethyl acetate	Canada: OEL 8 hour	1,440 mg/m <sup>3</sup> ; 400 ppm
		Canada: OEL TWA	150 ppm
		Canada: VEMP	1,440 mg/m <sup>3</sup> ; 400 ppm

### Engineering controls

Explosion protection required. Work only with resistant materials.  
 Provide for good ventilation or exhaust system or work with completely self-contained equipment.  
 Use local exhaust in the field of the processing equipment.  
 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:	<p>Wear suitable protective clothing.</p> <p>In case of handling larger quantities: flame-retardant protective clothing, solvent-resistant protective clothing</p> <p>protective gloves according to OSHA Standard - 29 CFR: 1910.138.</p> <p>Glove material: Butyl caoutchouc (butyl rubber)-Layer thickness <math>\geq</math> 0,5 mm</p> <p>Breakthrough time: <math>&gt;480</math> min.</p> <p>Observe glove manufacturer's instructions concerning penetrability and breakthrough time.</p>
Respiratory protection:	<p>Respiratory protection must be worn whenever the TLV (WEL) levels have been exceeded. 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.</p> <p>Have a breathing apparatus that is not dependent on the circulating air ready for emergencies.</p> <p>In case of prolonged or repeated exposures: use self-contained breathing apparatus.</p> <p>Use combination filter type A/P2 according to OSHA Standard - 29 CFR: 1910.134 or ANSI Z88.2.</p>
General hygiene considerations:	<p>Avoid breathing mist/vapors/spray. Avoid contact with skin and eyes.</p> <p>Take off contaminated clothing and wash it before reuse. Wash hands before breaks and after work.</p> <p>Keep away from sources of ignition - No smoking.</p> <p>Have eye wash bottle or eye rinse ready at work place. When handling large quantities, supply emergency spray.</p>

### 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 20 °C and 101.3 kPa: liquid Color: Colorless
Odor:	Characteristic
Odor threshold:	Not determined
pH:	Not determined
Melting point/freezing point:	Not determined
Initial boiling point and boiling range:	56 °C (DIN 53171)
Flash point/flash point range:	-19 °C (DIN 53213)
Evaporation rate:	No data available
Flammability:	No data available
Explosion limits:	LEL (Lower Explosion Limit): 2.20 Vol-% (EN 1839) UEL (Upper Explosive Limit): 13.00 Vol-% (EN 1839)
Vapor pressure:	at 20 °C: 233 hPa (DIN 51640) at 50 °C: (Acetone) 800 hPa (DIN 51757)
Vapor density:	No data available
Density:	at 20 °C: 0.88 g/mL

Solubility:	at 20 °C: various organic solvents
Water solubility:	Slightly miscible
Partition coefficient: n-octanol/water:	No data available
Auto-ignition temperature:	Not self-igniting
Thermal decomposition:	No data available
Viscosity, dynamic:	at 20 °C: 3,600 mPa*s (Brookfield (ISO 2555))
Explosive properties:	Product is not explosive. Vapors may form explosive mixtures with air.
Solvent content:	78.9 %
Solid content:	21.1 % (ISO 3251)

## 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:	Keep away from heat sources, sparks and open flames. Protect from direct sunlight.
Incompatible materials:	Attacks many plastics and rubbers. On contact with barium hydroxide, sodium hydroxide and many other alkaline materials condensation may occur. Keep away from: strong oxidizing agents, alkalis, amines
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

**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: > 2,000 mg/kg

Acute toxicity (dermal): Based on available data, the classification criteria are not met.  
ATEmix calculated: > 2,000 mg/kg

Acute toxicity (inhalative): Based on available data, the classification criteria are not met.  
ATEmix calculated: > 20 mg/L

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Serious eye damage/irritation: Eye Irritation 2A = Causes serious eye irritation.

Sensitisation to the respiratory tract: Based on available data, the classification criteria are not met.

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

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

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

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

Effects on or via lactation: Lack of data.

Specific target organ toxicity (single exposure): Specific Target Organ Toxicity (Single Exposure) 3 = May cause drowsiness or dizziness.

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

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

**Other information:** Information about acetone:  
LD50 Rat, oral: 5,800  
LD50 Rabbit, dermal: > 7,400 mg/kg  
LC50 Rat, inhalative (vapor): 76 mg/L/4h

Information about ethyl acetate:  
LD50 Rat, oral: 5,800 mg/kg  
LD50 Rabbit, dermal: > 20,000 mg/kg  
LD50 Rat, inhalative (vapor): > 22.5 mg/L/6h

### Symptoms

Burning eyes and skin.

In case of inhalation:  
fatigue, nausea, Headache, dizziness, drowsiness, vomiting, breathing paralysis, unconsciousness.

In case of ingestion:  
The absorption of even very small amounts of this product through the stomach may lead to health problems.  
symptoms: Drowsiness, vomiting. Gastric and intestinal problems.

After contact with skin:  
Repeated exposure may cause skin dryness or cracking, due to defatting properties.

After eye contact: Corneal damage  
Upon direct contact with eyes may cause burning, tearing, redness.

## 12. Ecological information

### Ecotoxicity

Aquatic toxicity:

Information about acetone:

Fish toxicity:

LC50 Lepomis macrochirus (Bluegill): 8,300 mg/L/96h

Daphnia toxicity:

EC50 Daphnia magna (Big water flea): 12,600 - 12,700 mg/L/48h

Information about ethyl acetate:

Fish toxicity:

LC50 Pimephales promelas (fathead minnow): 230 mg/L/96h

Daphnia toxicity:

EC50 Daphnia magna (Big water flea): 717 mg/L/48h

Algae toxicity:

IC50 Desmodesmus subspicatus (green algae): 3,300 mg/L/48h

### Mobility in soil

No data available

### Persistence and degradability

Further details:

Information about Acetone:

Biodegradability: 91 %/28 d.

Information about Ethyl acetate:

Biodegradability: 100 %/28 d.

### Additional ecological information

Volatile organic compounds (VOC):

78.84 % by weight / 6,938 g/L

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.

Do not dispose of with household waste.

Do not empty into drains.

### Package

Recommendation:

Dispose of waste according to applicable legislation.

Non-contaminated packages may be recycled.

Cans not thoroughly emptied are to be sent to the problem waste disposal.

## 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:

III

### Environmental hazards

Marine pollutant:

no

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

No data available

### Canada: Transportation of Dangerous Goods (TDG)

UN Number:

UN1133

Shipping name:

UN 1133, adhesives

TDG class:

3

Packing group:

III

Explosive limit and limited quantity index:

5L

Passenger carrying road or rail index:

60L

### Sea transport (IMDG)

UN number:

UN 1133

Proper shipping name:

UN 1133, ADHESIVES

Class or division, Subsidiary risk:

Class 3, Subrisk -

Packing Group:

III

EmS:

F-E, S-D

Special Provisions:

223 955

Limited quantities:

5 L

Excepted quantities:

E1

Package - Instructions:

P001, LP01

Package - Provisions:

PP1

IBC - Instructions:

IBC03

IBC - Provisions:

-

Tank instructions - IMO:

-

Tank instructions - UN:

T2

Tank instructions - Provisions:

TP1

Stowage and handling:

Category A.

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

Remarks:

Viscous according to 2.3.2.2 of the IMDG code

### Air transport (IATA)

UN/ID number: UN 1133  
 Proper shipping name: UN 1133, ADHESIVES  
 Class or division, Subsidiary risk: Class 3  
 Packing Group: III  
 Hazard label: Flamm. liquid  
 Excepted Quantity Code: E1  
 Passenger and Cargo Aircraft: Ltd.Qty.: Pack.Instr. Y344 - Max. Net Qty/Pkg. 10 L  
 Passenger and Cargo Aircraft: Pack.Instr. 355 - Max. Net Qty/Pkg. 60 L  
 Cargo Aircraft only: Pack.Instr. 366 - Max. Net Qty/Pkg. 220 L  
 Special Provisions: A3  
 Emergency Response Guide-Code (ERG): 3L  
 Remarks: Viscous according to IATA § 3.3.3.1

## 15. Regulatory information

### National regulations - Canada

Acetone: DSL: listed  
 Ethyl acetate: DSL: listed

## 16. Other information

Text for labeling: Contains >= 50 % Acetone, 25 - 50 % Ethyl 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  
ATEmix: Acute Toxicity Estimate of mixture  
CAS: Chemical Abstracts Service  
CFR: Code of Federal Regulations  
CLP: Classification, Labelling and Packaging  
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  
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  
IC50: Inhibition Concentration 50%  
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  
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  
WHMIS: Workplace Hazardous Materials Information System

Reason of change: **General revision**

Date of first version: **30/10/1994**

### 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.