

1. Product and company identification

Product identifier

Trade name: 636W17 - Plastic Adhesive

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

General use: Synthetic 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

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
Color: colorless

Odor: characteristic

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.
Repeated exposure may cause skin dryness or cracking.

Precautionary statements:

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 Take precautionary measures against static discharge.
 Avoid breathing vapors.
 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 locked up.

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

Higher doses may lead to a narcotic effect.
 see section 11: Toxicological information

3. Composition / Information on ingredients

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

Hazardous ingredients:

CAS No.	Designation	Content	Classification
CAS 67-64-1	Acetone	>= 50 %	Flammable Liquid - Category 2. Eye Irritation - Category 2A. Specific Target Organ Toxicity (Single Exposure) - Category 3.
CAS 141-78-6	Ethyl acetate	10 - 50 %	Flammable Liquid - Category 2. Eye Irritation - Category 2A. Specific Target Organ Toxicity (Single Exposure) - Category 3.

4. First aid measures

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. Immediately remove any wetted clothing, shoes or stockings. Follow up by applying skin cream. 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. Subsequently seek the immediate attention of an ophthalmologist.

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

636W17 - Plastic Adhesive

Material number 636W17

Page: 3 of 11

Most important symptoms/effects, acute and delayed

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

Information to physician

Combat acidosis. Monitor alkali reserves.

Treat symptomatically.

5. Fire fighting measures

Flash point/flash point range:

-0.399999999999999 °F (DIN 51758)

Auto-ignition temperature: not self-igniting

Suitable extinguishing media:

Water fog, foam, dry chemical powder, carbon dioxide.

Extinguishing media which must not be used for safety reasons:

High power 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: NOx and decomposition products containing HCN may develop. Carbon monoxide, carbon dioxide.

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.

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.

Do not breathe vapors. Provide adequate ventilation.

If necessary: Use appropriate respiratory protection.

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

Wear protective equipment.

636W17 - Plastic Adhesive

Material number 636W17

Page: 4 of 11

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.
Plug leak if safely possible.

In case of greater quantities: Collect mechanically (use only explosion-proof equipment when pumping out). Dam spills. Seal all low level rooms.

Flowing water:

Dilution occurs quickly. In case of large spills/leaks inform appropriate local, state, and federal spill reporting authorities.

Standing water:

Seal off. Remove all sources of ignition.

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 129.2 °F. 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.
Do not breathe vapors. Avoid contact with skin and eyes.
Wear protective equipment.
Use local exhaust in the field of the processing equipment.
Provide good ventilation and/or an exhaust system in the work area.
Have eye wash bottle or eye rinse ready at work place.

Precautions against fire and explosion:

Vapors may form explosive mixtures with air.
Exposure to temperatures exceeding 122 °F 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.

Hints on joint storage:

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
67-64-1	Acetone	USA: ACGIH: STEL	500 ppm
		USA: ACGIH: TWA	250 ppm
		USA: NIOSH: TWA	590 mg/m ³ ; 250 ppm
		USA: OSHA: TWA	2400 mg/m ³ ; 1000 ppm
141-78-6	Ethyl acetate	USA: ACGIH: TWA	1440 mg/m ³ ; 400 ppm
		USA: NIOSH: TWA	1400 mg/m ³ ; 400 ppm
		USA: OSHA: TWA	1400 mg/m ³ ; 400 ppm

Biological limit values:

CAS No.	Designation	Type	Limit value	Parameter	Sampling
67-64-1	Acetone	USA: ACGIH-BEI, urine	50 mg/L	acetone	end of exposure or end of shift

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: Wear suitable protective clothing.
 In case of handling larger quantities: flame-retardant protective clothing, solvent-resistant protective clothing
 protective gloves according to OSHA Standard - 29 CFR: 1910.138.
 Glove material: Butyl caoutchouc (butyl rubber)-Layer thickness >= 0,5 mm.
 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.
 Special gas filter, boiling range low, Use filter against vapors of low boiling 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.
 Have a breathing apparatus that is not dependent on the circulating air ready for emergencies.
 In case of prolonged or repeated exposures: use self-contained breathing apparatus.

General hygiene considerations:

Do not breathe vapors. Avoid contact with skin and eyes.
 Take off immediately all contaminated clothing. Wash hands before breaks and after work.
 Keep away from sources of ignition. - No smoking.
 Have eye wash bottle or eye rinse ready at work place.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance:	Form: liquid Color: colorless
Odor:	characteristic
Odor threshold:	no data available
pH value:	no data available
Melting point/freezing point:	no data available
Initial boiling point and boiling range:	132.8 °F (DIN 53171)
Flash point/flash point range:	-0.39999999999999 °F (DIN 51758)
Evaporation rate:	no data available
Flammability:	no data available
Explosion limits:	LEL (Lower Explosion Limit): 2.10 Vol-% UEL (Upper Explosive Limit): 13.00 Vol-%
Vapor pressure:	at 68 °F: 247 hPa at 122 °F: (Acetone) 800 hPa
Vapor density:	no data available
Density:	at 68 °F: 0.87 g/mL (DIN 51757)
Solubility:	at 68 °F: 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 68 °F: 2300 mPa*s (DIN53019Brookfld.RVT)
Explosive properties:	Product is not explosive. Vapors may form explosive mixtures with air.
Ignition temperature:	860 °F
Solvent separation test:	<= 3 %
Solvent content:	81 %
Solid content:	19 %

10. Stability and reactivity

Reactivity:	Highly flammable liquid and vapor.
Chemical stability:	Stable under recommended storage conditions.
Possibility of hazardous reactions	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 heating: Danger of bursting container.
Conditions to avoid:	Keep away from heat sources, sparks and open flames.
Incompatible materials:	Attacks many plastics and rubbers. On contact with barium hydroxide, sodium hydroxide and many other alkaline materials condensation may occur.

636W17 - Plastic Adhesive

Material number 636W17

Page: 7 of 11

Hazardous decomposition products:

On heating or in case of fire toxic gases may form.
In case of fire: NO_x and decomposition products containing HCN may develop. Carbon monoxide, carbon dioxide.

Thermal decomposition: no data available

11. Toxicological information**Toxicological tests**

Toxicological effects: Acute toxicity (oral): Lack of data.
Acute toxicity (dermal): Lack of data.
Acute toxicity (inhalative): Lack of data.
Skin corrosion/irritation: Lack of data.
Eye damage/irritation: Eye Irritation - Category 2A = Causes serious eye irritation.
Sensitisation to the respiratory tract: Lack of data.
Skin sensitisation: Lack of data.
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): Specific Target Organ Toxicity (Single Exposure) - Category 3 = May cause drowsiness or dizziness.
Specific target organ toxicity (repeated exposure): Lack of data.
Aspiration hazard: Lack of data.

Other information: Not known to cause sensitization.

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

12. Ecological information

Ecotoxicity

Aquatic toxicity: Information about Acetone:
 Acute effects:
 Fish toxicity:
 - freshwater species: 96h LC50 (Oncorhynchus mykiss): 5540 mg/L
 - marine species: 96h LC50 (Alburnus alburnus (alburnum)): 11000 mg/L
 Invertebrate toxicity:
 - freshwater species: 48h EC50 (Daphnia pulex (water flea)): 8800 mg/L
 - marine species: 24h EC50 (Artemisia salina): 2100 mg/l
 Algae toxicity:
 - freshwater species: 8h NOEC (Microcystis aeruginosa): 530 mg/L/8 d.
 - marine species: 96h NOEC (Prorocentrum minimum): 430 mg/L
 Bacterial toxicity:
 EC 12: (30 min; activated sludge; OECD 209): 1000 mg/L
 Long-term effects:
 Long-term toxicity to aquatic invertebrates:
 28-days NOEC (Daphnia pulex (water flea); reproduction): 2212 mg/L
 No information on long-term effects of fish and algae available.
 Long-term effects on aquatic organisms are not relevant due to the rapid elimination in water.

Mobility in soil

no data available

Persistence and degradability

Further details: no data available

Additional ecological information

Volatile organic compounds (VOC):

704.7 g/L; 81 %

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.

Contaminated packaging

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.

Additional information

Handle empty containers with care. Incineration may cause explosion.

636W17 - Plastic Adhesive

Material number 636W17

14. Transport information

USA: Department of Transportation (DOT)

Identification numbers: UN1133
 Proper shipping name: UN 1133, adhesives
 DOT hazard class or division: 3
 PG: III
 Label codes: 3
 Special provisions: B1, B52, IB3, T2, TP1
 Packaging - Exceptions: 150
 Packaging - Non-bulk: 173
 Packaging - Bulk: 242
 Quantity limitations - Passenger aircraft / rail: 60 L
 Quantity limitations - Cargo only: 220 L
 Vessel stowage - Location: A
 Vessel stowage - Other:



Sea transport (IMDG)

UN number: UN 1133
 Proper shipping name: UN 1133, Adhesives
 IMDG: Class 3, Subrisk -
 Packing Group: III
 EmS: F-E, S-D
 Special provisions: 223, 955
 Limited quantities: 5 L
 EQ: E1
 Contaminated packaging - Instructions: P001, LP01
 Contaminated packaging - 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

Air transport (IATA)

UN/ID number: UN 1133
 Proper shipping name: UN 1133, Adhesives
 ICAO/IATA: Class 3
 PG: III
 Hazard: Flamm. liquid
 EQ: E1
 Passenger Ltd.Qty.: Pack.Instr. Y344 - Max. Net Qty/Pkg. 10 L
 Passenger: Pack.Instr. 355 - Max. Net Qty/Pkg. 60 L
 Cargo: Pack.Instr. 366 - Max. Net Qty/Pkg. 220 L
 Special Provisioning: A3
 ERG: 3L

15. Regulatory information

National regulations - U.S. Federal Regulations

Acetone:	TSCA Inventory: listed TSCA HPVC: not listed Clean Air Act: SOCMI Chemical: yes Other Environmental Laws: CERCLA: RQ 5000 lbs. RCRA Hazardous Wastes: Code U002 RCRA Groundwater Monitoring: Methods 8240 / PQL 100 NIOSH Recommendations: Occupational Health Guideline: 0004*
Ethyl acetate:	TSCA Inventory: listed; EPA flags T TSCA HPVC: not listed Other Environmental Laws: CERCLA: RQ 5000 lbs. RCRA Hazardous Wastes: Code U112 NIOSH Recommendations: Occupational Health Guideline: 0260

National regulations - U.S. State Regulations

Acetone:	California Prop 65 List: None Delaware Air Quality Management List: DRQ: 5000 - RQ State: Federal Regulations Apply Idaho Air Pollutant List: Title 585: AAC: 89 - EL: 119 - OEL: 1780 Massachusetts Haz. Substance codes: 2,4,5,6 F8 F9 Minnesota Haz. Substance: Codes: AON - Ratings: 7.16 - Status: Title III New York List of Hazardous Substances: RQ-Air: 5000 - RQ-Land: 1 - Note: No Note Associated with this chemical. Pennsylvania Haz. Substance code: E Washington Air Contaminant: TWA: 750 ppm - 1800 mg - STEL: 1000 ppm - 2400 mg
Ethyl acetate:	Delaware Air Quality Management List: DRQ: 5000 - RQ State: Federal Regulations Apply Idaho Air Pollutant List: Title 585: AAC: 70 - EL: 93,3 - OEL: 1400 - Title 586: - Main Hazardous Air Pollutants: Me 2005: HAP - Hap Rpt: 20000 Massachusetts Haz. Substance codes: 2,4,5,6 F8 Minnesota Haz. Substance: Codes: AO - Ratings: 6.83 - Status: Title III. New York List of Hazardous Substances: RQ-Air: 5000 - RQ-Land: 1 - Note: No Note Associated with this chemical. Pennsylvania Haz. Substance code: E Washington Air Contaminant: TWA: 400 ppm - 1400 mg

National regulations - Great Britain

Hazchem-Code: •3YE

16. Other information

Text for labeling: Contains >= 50 % Acetone, 10 - 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

Reason of change: Changes in section 14: IMDG 2015

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.