1. Product and company identification

Product identifier

Trade name: 636K19 - Lacquer sealer

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

General use: Special varnish, Coating solution. 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

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
Form: pasty
Color: varying colors

Odor: like acetic anhydride

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.
Avoid breathing dust/fume/gas/mist/vapors/spray.
Wear protective gloves and 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 U.S. OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazards not otherwise classified

On contact with air, potentially explosive mixtures may develop.
Inhaling can lead to irritations of the respiratory tract and mucous membrane.
Higher doses may have a narcotic effect.
see section 11: Toxicological information

3. Composition / Information on ingredients

Relevant ingredients:

CAS No.	Designation	Concentration	Classification
CAS 141-78-6	Ethyl acetate	80 - 85 %	Flammable Liquid - Category 2. Eye Irritation - Category 2A. Specific Target Organ Toxicity (Single Exposure) - Category 3.

4. First aid measures

In case of inhalation:
Move victim to fresh air, put at rest and loosen restrictive clothing.
If breathing becomes irregular or ceases, apply rescue breathing or artificial respiration immediately, where required supply oxygen. Immediately get medical attention.

Following skin contact:
Remove residues with soap and water. Take off contaminated clothing and wash it before reuse.
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. Remove contact lenses, if present and easy to do. Continue rinsing. Subsequently consult an ophthalmologist.

After swallowing:
Do not induce vomiting. Danger of aspiration!
Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person.
Keep airway open. Immediately get medical attention.

Most important symptoms/effects, acute and delayed

May cause drowsiness or dizziness. Causes serious eye irritation. Prolonged/repetitive skin contact may cause skin defattening or dermatitis.
In case of inhalation: Vapors irritate mucous membranes and respiratory system.
In case of ingestion: Aspiration of this product into the lungs during vomiting, may cause serious injury or death.
Ethyl acetate:
After resorption: sore throat, loss of appetite, headache, fatigue, drowsiness. Nausea, vomiting, breathing paralysis.
Higher doses may have a narcotic effect.

Information to physician

Treat symptomatically.

5. Fire fighting measures

Flash point/flash point range:
24.8 °F

Auto-ignition temperature: No data available

Suitable extinguishing media:
Foam, dry chemical powder, carbon dioxide.

Extinguishing media which must not be used for safety reasons:
Water

Specific hazards arising from the chemical

Highly flammable liquid and vapor.
Liquid evaporates very quickly.
Concentrated vapors are heavier than air. Explosive mixtures with air may even form at room temperature. Beware of reignition.
In case of fire may be liberated: Carbon monoxide and carbon dioxide.

Protective equipment and precautions for firefighters:
Wear self-contained breathing apparatus.

Additional information: Move container away or cool with water from a protected position.
Use a water fog to control vapors.
Do not allow fire water to penetrate into surface or ground water.
In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

6. Accidental release measures

Personal precautions: Eliminate all ignition sources if safe to do so. If possible, eliminate leakage.
Avoid contact with the substance.
Wear appropriate protective equipment. Keep unprotected people away.
Provide adequate ventilation. Avoid breathing mist/vapors/spray. Take off contaminated clothing and wash it before reuse.

Cordon off downwind area at risk and warn inhabitants.

Environmental precautions:
Do not empty into drains. Danger of explosion! In case of release, notify competent authorities.
Separation possible by separator.

Methods for clean-up: Isolate leaked material using non-flammable absorption agent (e.g. sand, earth, vermiculit, diatomaceous earth) and collect it for disposal in appropriate containers in accordance with the local regulations (see section 13).

Additional information: Remove all sources of ignition.
Use only spark proof tools. Beware of reignition.

7. Handling and storage

Handling

Advices on safe handling: Provide adequate ventilation, and local exhaust as needed.
Concentrated vapors are heavier than air. Provide room air exhaust at ground level.
Avoid contact with skin and eyes. Avoid breathing mist/vapors/spray. 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:
Keep away from sources of ignition and heat.
Take precautionary measures against static discharges.
Beware of reignition. Air combined with vapors may form potentially explosive mixtures that are heavier than air. Do not weld. Use only spark proof tools. Use only explosion-proof equipment.

Storage

Requirements for storerooms and containers:
Keep container tightly closed in a cool, well-ventilated place.
Protect from heat and direct sunlight.
Store containers in upright position. Explosion protection required.

Hints on joint storage: Do not store together with combustible or self-igniting materials or any highly flammable solids.
Keep away from food, drink and animal feedingstuffs.

Further details: Attacks and dissolves many plastics.
Steel, stainless steel and aluminium are stable container materials.

8. Exposure controls / personal protection

Exposure guidelines

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value
141-78-6	Ethyl acetate	USA: ACGIH: TWA	1440 mg/m³; 400 ppm
		USA: NIOSH: TWA	1400 mg/m³; 400 ppm
		USA: OSHA: TWA	1400 mg/m³; 400 ppm

Engineering controls

Provide good ventilation and/or an exhaust system in the work area.
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 and shoes.
Recommendation: Flame-retardant protective clothing, antistatic.

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.
Unsuitable materials: natural rubber, nitrile rubber, fluoro rubber.

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. Take off contaminated clothing and wash it before reuse. Do not eat, drink or smoke when using this product.
Wash hands before breaks and after work. 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 Form: pasty Color: varying colors
Odor:	like acetic anhydride
Odor threshold:	No data available
pH:	No data available
Melting point/freezing point:	No data available
Initial boiling point and boiling range:	165.2 - 172.4 °F
Flash point/flash point range:	24.8 °F
Evaporation rate:	No data available
Flammability:	Highly flammable liquid and vapor.
Explosion limits:	LEL (Lower Explosion Limit): 2.10 Vol-% UEL (Upper Explosive Limit): 11.50 Vol-%
Vapor pressure:	at 68 °F: 100 hPa at 122 °F: 375 hPa
Vapor density:	No data available
Density:	at 68 °F: 0.90 g/mL
Water solubility:	insoluble 77 g/L
Partition coefficient: n-octanol/water:	0.73 log P(o/w) Based on the n-octanol/water partition coefficient accumulation in organisms is not expected.

Auto-ignition temperature:	No data available
Thermal decomposition:	No data available
Viscosity, dynamic:	at 73.4 °F: >= 20000 mPa*s
Viscosity, kinematic:	at 73.4 °F: >= 25000 mm²/s
Explosive properties:	On contact with air, potentially explosive mixtures may develop.
Ignition temperature:	860 °F
Solvent content:	80 %

10. Stability and reactivity

Reactivity:
Highly flammable liquid and vapor.
Vapors may form explosive mixtures with air.

Chemical stability:
Stable under recommended storage conditions.
Light-sensitive, sensitive to air.

Possibility of hazardous reactions:
Heating will lead to pressure increase: Danger of bursting and explosion.

Conditions to avoid:
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge.
Protect from heat and direct sunlight. Liquid evaporates very quickly.

Incompatible materials:
Chlorosulfonic acid, fluorine (exothermic reactions).
Hydrides, alkali metals (Danger of explosion).
The separation of the material is increased considerably by bases. The material may react violently if it comes into contact with oxygen-rich material (oxidizing agent).
Attacks and dissolves many plastics.

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): Lack of data.

Acute toxicity (dermal): Lack of data.

Acute toxicity (inhalative): Lack of data.

Skin corrosion/irritation: Based on available data, the classification criteria are not met. Repeated exposure may cause skin dryness or cracking.

Serious 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: Information about Ethyl acetate:
LD50 Rabbit, oral: 4,934 mg/kg
LD50 Rabbit, dermal: > 5,000 mg/kg
LC50 Rat, inhalative: > 20 mg/L/6h

Ethyl acetate, in low vapor concentrations, has a pleasant, fruit-like smell, in medium doses an irritating effect on the mucous membranes and in higher doses an anesthetic effect.
Sensitizer. Chronic exposure may result in the development of hyper-sensitivities.

Symptoms

Ethyl acetate:
After resorption: sore throat, loss of appetite, headache, fatigue, drowsiness. Nausea, vomiting, breathing paralysis.
Higher doses may have a narcotic effect.
In case of inhalation: Vapors irritate mucous membranes and respiratory system.
In case of ingestion:
Aspiration of this product into the lungs during vomiting, may cause serious injury or death.
After contact with skin:
Prolonged/repetitive skin contact may cause skin defattening or dermatitis.
After eye contact: Upon direct contact with eyes may cause burning, tearing, redness.

12. Ecological information

Ecotoxicity

Aquatic toxicity: Information about Ethyl acetate:
Fish toxicity:
LC50 Pimephales promelas (fathead minnow): 230 mg/L/96h
Daphnia toxicity:
EC50 Daphnia Cucullata: 165 mg/L/48h
Algae toxicity:
EC50 Desmodesmus subspicatus (green algae): 5,600 mg/L/48h

Effects in sewage plants: Information about Ethyl acetate:
Technically correct releases of minimal concentrations to adapted biological sewage treatment facility, will not disturb the biodegradability of activated sludge.

Mobility in soil

No data available

Persistence and degradability

Further details: Information about Ethyl acetate:
Biodegradation: 100 %/28 d (OECD 301 D)
Bioconcentration factor (BCF): 30 (Leuciscus idus)
Product is readily biodegradable.

Additional ecological information

Oxygen demand: ThOD: (Ethyl acetate) 1,82 g/g

Volatile organic compounds (VOC):
80 % 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.
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.
Handle empty containers with care. Incineration may cause explosion.

14. Transport information

14.2 UN proper shipping name

ADR/RID, IMDG, IATA-DGR:
UN 1993, FLAMMABLE LIQUID, N.O.S. (Ethyl acetate)

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:	UN1993
Proper shipping name:	UN 1993, FLAMMABLE LIQUIDS, N.O.S. (Ethyl acetate)
Hazard class or Division:	3
Packing Group:	II
Labels:	3
Symbols:	G
Special provisions:	IB2, T7, TP1, TP8, TP28
Packaging – Exceptions:	150
Packaging – Non-bulk:	202
Packaging – Bulk:	242
Quantity limitations – Passenger aircraft / rail:	5 L
Quantity limitations – Cargo only:	60 L
Vessel stowage – Location:	B

Sea transport (IMDG)

UN number:	UN 1993
Proper shipping name:	UN 1993, FLAMMABLE LIQUID, N.O.S. (Ethyl acetate)
Class or division, Subsidary risk:	Class 3, Subrisk -
Packing Group:	II
EmS:	F-E, S-E
Special provisions:	274
Limited quantities:	1 L
Excepted quantities:	E2
Package - Instructions:	P001
Package - Provisions:	-
IBC - Instructions:	IBC02
IBC - Provisions:	-
Tank instructions - IMO:	-
Tank instructions - UN:	T7
Tank instructions - Provisions:	TP1, TP8, TP28
Stowage and handling:	Category B.
Properties and observations:	-
Marine pollutant:	no
Segregation group:	none
Remarks:	For packages < = 450 litres: PG III (IMDG 2.3.2.2)

Air transport (IATA)

UN/ID number:	UN 1993
Proper shipping name:	UN 1993, FLAMMABLE LIQUID, N.O.S. (Ethyl acetate)
Class or division, Subsidary 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):	3H
Remarks:	For packages < = 100 litres: PG III (IATA 3.2.2)

15. Regulatory information

National regulations - U.S. Federal Regulations

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

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

16. Other information

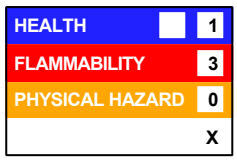
Text for labeling:

Contains 80 - 85 % Ethyl acetate. Safety data sheet available on request.
Contains Ethyl acetate.

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



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
OEL: Occupational Exposure Limit Value
AS/NZS: Australian Standards/New Zealand Standards
BCF: Bioconcentration Factor
CAS: Chemical Abstracts Service
CFR: Code of Federal Regulations
CLP: Classification, Labelling and Packaging
DMEL: Derived minimal effect level
DNEL: Derived no-effect level
EC50: Effective Concentration 50%
EC: European Community
EN: European Standard
EU: European Union
IATA: International Air Transport Association
IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IMDG Code: International Maritime Dangerous Goods Code
LC50: Median lethal concentration
LD50: Lethal dose 50%
LEL: Lower Explosion Limit
log P(o/w): Partition coefficient: octanol/water
MARPOL: Maritime Pollution: The International Convention for the Prevention of Pollution from Ships
OECD: Organisation for Economic Co-operation and Development
OSHA: Occupational Safety and Health Administration
PBT: Persistent, bioaccumulative and toxic
PNEC: Predicted no-effect concentration
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
RID: Regulations Concerning the International Carriage of Dangerous Goods by Rail
STOT SE: Specific target organ toxicity - single exposure
ThOD: Theoretical Oxygen Demand
ThOD: Theoretical Oxygen Demand
TLV: Threshold Limit Value
UN: United Nations
vPvB: Very persistent and very bioaccumulative
WEL: Workplace Exposure Limit

Reason of change:

Changes in section 1: Trade name
Changes in section 3: Composition/information on ingredients
Changes in section 14: Transport information
General revision

Date of first version: 3/26/2010

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.