

1. Product and company identification

Product identifier

Trade name: 634A23 - Thinner for 636W25

This safety data sheet pertains to the following products:
634A23=0.800 = Verdünnung

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

General use: Dilution for PU-Adhesive.
For orthopedic procedures. For commercial user 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

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.

Precautionary statements:

- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Avoid breathing mist/vapors/spray.
- Wash hands and face thoroughly after handling.
- Wear protective gloves and eye protection.
- IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- Call a POISON CENTER/doctor if you feel unwell.
- 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).

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.
 Danger of cutaneous absorption.
 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: Mixture of the substances listed below with non-hazardous additions.

Relevant ingredients:

CAS No.	Designation	Concentration	Classification
CAS 78-93-3	Butanone	50 - 100 %	Flammable Liquid - Category 2. Eye Irritation - Category 2A. 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: Provide fresh air. Seek medical treatment in case of troubles.
 If breathing becomes irregular or ceases, apply rescue breathing or artificial respiration immediately, where required supply oxygen.

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

Most important symptoms/effects, acute and delayed

May cause drowsiness or dizziness.
Repeated exposure may cause skin dryness or cracking.
Causes serious eye irritation.
After ingestion: May cause stomachache or vomiting.
In case of inhalation: Headache, nausea and inebriation. May cause irritations.

Information to physician

Treat symptomatically.

5. Fire fighting measures

Flash point/flash point range:

24.8 °F (DIN 53213)

Auto-ignition temperature: not self-igniting

Suitable extinguishing media:

Carbon dioxide, dry chemical powder, alcohol resistant foam, water spray jet.

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.
May form dangerous gases and vapors in case of fire.
Furthermore, there may develop: 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 inhale explosion and combustion gases.
Move container away or cool with water from a protected position.
Do not allow water used to extinguish fire to enter drains, ground or waterways.
You have to dispose of contaminated extinguishing water according to the regulations of the authorities.

6. Accidental release measures

Personal precautions:

Remove all sources of ignition. Provide adequate ventilation.
Eliminate all ignition sources if safe to do so. If possible, eliminate leakage.
Wear appropriate protective equipment. Keep unprotected people away.
Do not breathe vapors. Avoid contact with skin and eyes.
Take off contaminated clothing and wash it before reuse.

Environmental precautions:

Do not allow to penetrate into soil, waterbodies or drains.
Danger of explosion !

Methods for clean-up:

Plug leak if safely possible.
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.
Do not remove residual product with water and detergent.

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 the formation of aerosol. Do not breathe vapors. Avoid contact with skin and eyes.
Wear appropriate protective equipment. Take off contaminated clothing and wash it before reuse. Do not eat, drink or smoke when using this product.
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 - No smoking.
Take precautionary measures against static discharges.
Use only explosion-proof equipment.

Storage

Requirements for storerooms and containers: Keep container tightly closed in a cool, well-ventilated place. Keep container dry.
Provide solvent resistant flooring.
Protect against heat /sun rays.

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

Further details: Release of highly flammable gases/vapors.
Heating causes rise in pressure with risk of bursting.

8. Exposure controls / personal protection

Exposure guidelines

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value
78-93-3	Butanone	USA: ACGIH: STEL	150 ppm (may be absorbed through the skin)
		USA: ACGIH: TWA	75 ppm (may be absorbed through the skin)
		USA: IDLH: TWA	3,000 ppm
		USA: NIOSH: STEL	885 mg/m ³ ; 300 ppm
		USA: NIOSH: TWA	590 mg/m ³ ; 200 ppm
		USA: OSHA: TWA	590 mg/m ³ ; 200 ppm

Biological limit values:

CAS No.	Designation	Type	Limit value	Parameter	Sampling
78-93-3	Butanone	USA: ACGIH-BEI, urine	2 mg/L	MEK	end of exposure or end of shift

Engineering controls

Provide good ventilation and/or an exhaust system in the work area.

Use only explosion-proof 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: Flame retardant, antistatic and chemical resistant protective clothing.

Protective gloves according to OSHA Standard - 29 CFR: 1910.138.

Glove material: Butyl caoutchouc (butyl rubber)-Layer thickness: 0.7 mm.

Breakthrough time: >240 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. Wear half-mask respirator with combination filter for organic vapors and particles.

General hygiene considerations:

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid the formation of aerosol. Do not breathe vapors. Avoid contact with skin and eyes.

Wash hands before breaks and after work. Take off contaminated clothing and wash it before reuse. Do not eat, drink or smoke when using this product.

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:	characteristic
Odor threshold:	No data available
pH:	No data available
Melting point/freezing point:	No data available
Initial boiling point and boiling range:	174.2 °F (DIN 53171)
Flash point/flash point range:	24.8 °F (DIN 53213)
Evaporation rate:	No data available
Flammability:	Highly flammable liquid and vapor.
Explosion limits:	LEL (Lower Explosion Limit): (EN 1839) 1.80 Vol-% UEL (Upper Explosive Limit): (EN 1839) 11.50 Vol-%
Vapor pressure:	at 68 °F: 105 hPa (DIN 51640)
Vapor density:	No data available
Density:	at 68 °F: 0.8 g/mL (DIN 51757)
Solubility:	in 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
Explosive properties:	Product is not explosive. Potentially explosive mixtures may form if adequate ventilation is not provided.
Solvent content:	100 %

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, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Protect against heat /sun rays.
Incompatible materials:	Reacts with alcohols, amines, 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

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.

Acute toxicity (dermal): Based on available data, the classification criteria are not met.

Acute toxicity (inhalative): Based on available data, the classification criteria are not met.

Skin corrosion/irritation: Lack of data.

Serious eye damage/irritation: Eye Irritation - Category 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) - Category 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 2-Butanone:
LD50 Rat, oral: > 2,600 mg/kg
LD50 Rabbit, dermal: > 8,000 mg/kg
LC50 Rat, inhalative: 40 mg/L/2h

Symptoms

In case of inhalation: Headache, nausea and inebriation.
May cause irritations.
After eye contact: Upon direct contact with eyes may cause burning, tearing, redness.

12. Ecological information

Ecotoxicity

Aquatic toxicity: Information about 2-Butanone:
Fish toxicity:
LC50 Pimephales promelas (fathead minnow): 3,220 mg/L/96h
Daphnia toxicity:
EC50 Daphnia magna (Big water flea): 5,091 mg/L/48h

Mobility in soil

No data available

Persistence and degradability

Further details: No data available

Additional ecological information

Volatile organic compounds (VOC):

100 % by weight / 804 g/L

General information:

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

13. Disposal considerations

Product

Recommendation:

Do not dispose of with household waste.

Incinerate as hazardous waste according to applicable local, state, and federal regulations.

Package

Recommendation:

Dispose of waste according to applicable legislation.

Handle contaminated packages in the same way as the substance itself.

14. Transport information

UN number

ADR/RID, IMDG, IATA-DGR:

UN 1193

UN proper shipping name

ADR/RID:

UN 1193, ETHYL METHYL KETON (METHYL ETHYL KETONE)

IMDG:

UN 1193, ETHYL METHYL KETONE (METHYL ETHYL KETONE)

IATA-DGR:

UN 1193, ETHYL METHYL KETONE or METHYL ETHYLKETONE

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: UN1193
 Proper shipping name: UN 1193,
 ETHYL METHYL KETONE or METHYL ETHYL KETONE
 Hazard class or Division: 3
 Packing Group: II
 Labels: 3
 Special Provisions: IB2, T4, TP1
 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 1193
 Proper shipping name: UN 1193, ETHYL METHYL KETONE (METHYL ETHYL KETONE)
 Class or division, Subsidiary risk: Class 3, Subrisk -
 Packing Group: II
 EmS: F-E, S-D
 Special Provisions: -
 Limited quantities: 1 L
 Excepted quantities: E2
 Package - Instructions: P001
 Package - Provisions: -
 IBC - Instructions: IBC02
 IBC - Provisions: -
 Tank instructions - IMO: -
 Tank instructions - UN: T4
 Tank instructions - Provisions: TP1
 Stowage and handling: Category B.
 Properties and observations: Colourless liquid. Flashpoint: -1°C c.c. Explosive limits: 1,8% to 11,5%.
 Miscible with water.
 Marine pollutant: no
 Segregation group: none

Air transport (IATA)

UN/ID number: UN 1193
 Proper shipping name: UN 1193, ETHYL METHYL KETONE or METHYL ETHYLKETONE
 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
 Emergency Response Guide-Code (ERG): 3L

15. Regulatory information

National regulations - U.S. Federal Regulations

Butanone: TSCA Inventory: listed
Other Environmental Laws:
CERCLA: RQ 5000 lbs.
RCRA Hazardous Wastes: Code U159
RCRA Groundwater Monitoring: Methods 8015, 8240 / PQL 10, 100
NIOSH Recommendations:
Occupational Health Guideline: 0069*

National regulations - U.S. State Regulations

Butanone: Delaware Air Quality Management List:
DRQ: 5000 - RQ State: Federal Regulations Apply
Idaho Air Pollutant List: Title 585/Title 586: -
Massachusetts Haz. Substance codes: 2,4,5,6 F8 F9
Minnesota Haz. Substance:
Codes: ANO - Ratings: 9.7 - Status: Air Pollutant Title III. TRI.
New Jersey RTK Hazardous Substance:
DOT: 1193 - Sub No.: 1258 - TPQ: -
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: 200 ppm - 590 mg - STEL: 300 ppm - 885 mg

16. Other information

Text for labeling:

Hazard rating systems:



Contains 50 - 100 % Butanone.

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
 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
 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

Reason of change: Changes in section 1.3: Company name General revision

Date of first version: 9/12/1989

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.