

## 1. Product and company identification

### Product identifier

Trade name: 634A1 - Thinner and solvent

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

General use: Thinner and Solvent, 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](http://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](mailto: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: mild, pleasant ester odor

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 vapors.  
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 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

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.  
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: C3 H6 O2 = CH3-COOCH3

Methyl acetate

CAS-Number: 79-20-9

RTECS-Number: AI9100000

## 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; if necessary, provide artificial respiration or oxygen. Seek medical attention. Do not allow victim to become chilled. Keep victim warm.  
Position and transport victim on their side. In case of respiratory distress, bring into semi-upright, seated position.

**Following skin contact:** Immediately clean with water and soap followed by thorough rinsing. 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 immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Do not induce vomiting. Seek medical attention.

### Most important symptoms/effects, acute and delayed

May cause drowsiness or dizziness. Causes serious eye irritation. Repeated exposure may cause skin dryness or cracking.  
The following symptoms may occur: Eye, nose, throat irritation, headache, at higher concentrations dizziness and nausea, unconsciousness and apnea.

### Information to physician

Take measures to prevent pneumonia, infections and other symptoms, in particular acidity-alkalinity.

## 5. Fire fighting measures

Flash point/flash point range:

6.8 °F (ISO 13736)

Auto-ignition temperature: No data available

Suitable extinguishing media:

Water spray jet, 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. Liquid evaporates very quickly. Product is not explosive. Vapor and air form potentially explosive mixture that is hazardous to health. Mixture is heavier than air and will travel great distances at floor level and lead to backflash when exposed to an ignition source.

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

In case of fire may be liberated: Acetic acid, 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:

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.

## 6. Accidental release measures

Personal precautions:

Eliminate all ignition sources if safe to do so. Avoid contact with the substance. Provide adequate ventilation.

Avoid breathing vapors. Keep unprotected people away. Wear appropriate protective equipment. 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.

Methods for clean-up:

Take up with non-flammable, liquid binding material (e.g. sand/earth/diatomaceous earth/vermiculit) and perform disposal according to instructions.

In case of greater quantities: Collect mechanically (use only explosion-proof equipment when pumping out). Close all lower level rooms.

Final cleaning.

Additional information:

Use only non-sparking tools. Take precautionary measures against static discharges.

Special danger of slipping by leaking/spilling product.

## 7. Handling and storage

### Handling

Advices on safe handling: Provide good ventilation and/or an exhaust system in the work area.  
Avoid breathing vapors. Avoid contact with skin and eyes.  
Wear appropriate protective equipment. Take off contaminated clothing and wash it before reuse.  
Do not allow containers to stand open. Store product in a quantity adequate for 1 work-shift only.  
Have eye wash bottle or eye rinse ready at work place.

Precautions against fire and explosion:  
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
Take precautionary measures against static discharges.  
Use explosion-proof equipment and non-sparking tools/utensils.  
Ground all containers and instruments. Use only explosion-protected equipment/instruments. Do not use air pressure to deliver.  
Highly flammable liquid and vapor. Liquid evaporates very quickly. Vapor and air form potentially explosive mixture that is hazardous to health. Mixture is heavier than air and will travel great distances at floor level and lead to backflash when exposed to an ignition source.  
Ignition by hot surfaces, sparks and open flames.

### Storage

Requirements for storerooms and containers:  
Keep container tightly closed in a cool, well-ventilated place.  
Protect from heat and direct sunlight.  
Keep container dry.  
Hints on joint storage: Do not store together with combustible materials or highly flammable solids.  
keep away from: oxidizing agents  
Keep away from food, drink and animal feedingstuffs.  
Further details: Breakable containers may not exceed 2,2 liters. Maximum fill: 95 %  
Unsuitable materials: various plastics, rubber.

## 8. Exposure controls / personal protection

### Exposure guidelines

Occupational exposure limit values:

Type	Limit value
USA: ACGIH: STEL	757 mg/m <sup>3</sup> ; 250 ppm
USA: ACGIH: TWA	606 mg/m <sup>3</sup> ; 200 ppm
USA: IDLH: TWA	3,100 ppm [10% LEL]
USA: NIOSH: STEL	760 mg/m <sup>3</sup> ; 250 ppm
USA: NIOSH: TWA	610 mg/m <sup>3</sup> ; 200 ppm
USA: OSHA: TWA	610 mg/m <sup>3</sup> ; 200 ppm

### Engineering controls

Use only explosion-protected equipment/instruments.  
Provide adequate ventilation, and local exhaust as needed.  
Vent high concentrations of aerosols and/or fumes from the work area. Process exhaust through separator/filter as needed.  
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-resistant antistatic 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: < 30 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 AX (= against vapors of low boiling organic substances) according to OSHA Standard - 29 CFR: 1910.134 or ANSI Z88.2.  
In case of prolonged or repeated exposures: use self-contained breathing apparatus.

**General hygiene considerations:**  
Avoid breathing vapors. Avoid contact with skin and eyes.  
Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash it before reuse.  
Do not allow containers to stand open. Store product in a quantity adequate for 1 work-shift only.  
Have eye wash bottle or eye rinse ready at work place. Wash hands before breaks and after work.

### Environmental exposure controls

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

## 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:** mild, pleasant ester odor

**Odor threshold:** No data available

**pH:** at 68 °F, 295 g/L: 3.9

**Melting point/freezing point:** -144.4 °F

**Initial boiling point and boiling range:** 131 - 134.6 °F

**Flash point/flash point range:** 6.8 °F (ISO 13736)

**Evaporation rate:** No data available

**Flammability:** No data available

**Explosion limits:** LEL (Lower Explosion Limit): 3.10 Vol-% (literature value)  
UEL (Upper Explosive Limit): 16.00 Vol-% (literature value)

**Vapor pressure:** at 68 °F: 220 hPa  
at 122 °F: 782 hPa

Vapor density:	No data available
Density:	at 68 °F: 0.933 g/mL
Solubility:	at 68 °F: various organic solvents
Water solubility:	at 68 °F: 239 g/L
Partition coefficient: n-octanol/water:	0.18 log P(o/w) (OECD 121) 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 68 °F: 0.381 mPa*s
Explosive properties:	Product is not explosive. Vapors may form explosive mixtures with air.
Ignition temperature:	941 °F (DIN 51794)
Molecular weight	74.08 g/mol

## 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:	Liquid evaporates very quickly. Product is not explosive. Vapors may form explosive mixtures with air. Vapor and air form potentially explosive mixture that is hazardous to health. Mixture is heavier than air and will travel great distances at floor level and lead to backflash when exposed to an ignition source. Ignition by hot surfaces, sparks and open flames. Heating will lead to pressure increase: Danger of bursting and explosion.
Conditions to avoid:	Take precautionary measures against static discharges. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Protect from moisture contamination.
Incompatible materials:	Contact with water causes product to separate into acetic acid and methyl alcohol. Decomposition happens much faster in presence of acids and lyes. Exothermic reactions with strong oxidizing agents.
Hazardous decomposition products:	Acetic acid, methanol
Thermal decomposition:	No data available

## 11. Toxicological information

### Toxicological tests

Acute toxicity:	LD50 Rat, oral:	> 6,482 mg/kg
	LD50 Rat, dermal:	> 2,000 mg/kg (OECD 402)
	LC50 Rat, inhalative (vapor):	> 49.2 mg/L/4h

Toxicological effects:	<p>Acute toxicity (oral): Based on available data, the classification criteria are not met.</p> <p>Acute toxicity (dermal): Based on available data, the classification criteria are not met.</p> <p>Acute toxicity (inhalative): Based on available data, the classification criteria are not met.</p> <p>Skin corrosion/irritation: Based on available data, the classification criteria are not met.</p> <p>Specific symptoms in animal studies (Rabbit): Not an irritant (OECD 404)</p> <p>Serious eye damage/irritation: Eye Irritation - Category 2A = Causes serious eye irritation.</p> <p>Specific symptoms in animal studies (Rabbit): irritant (OECD 405)</p> <p>Sensitisation to the respiratory tract: Lack of data.</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>Ames test (in-vitro): negative (OECD 471)</p> <p>Micronucleus test (in-vivo): negative (OECD 474)</p> <p>Carcinogenicity: Lack of data.</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>NOAEC Rat, inhalative (aerosol): 1.057 mg/L/28d (OECD 407)</p> <p>Aspiration hazard: Lack of data.</p>
Other information:	<p>Methyl acetate is rapidly hydrolyzed into methanol and acetic acid which, especially over time, may result in a methanol poisoning.</p>

### Symptoms

In case of inhalation:

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

Methyl acetate has a narcotic and depressive effect on the central nervous system especially in vapor form. Possible subsequent damage to the optical nerv.

In severe cases, pneumonia or a pulmonary edema may develop.

May cause irritations.

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

After contact with skin: May cause irritations. Expect absorption through the skin.

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

## 12. Ecological information

### Ecotoxicity

Aquatic toxicity:

When mixed with water, forms byproducts that are hazardous to health. Especially in closed containers potentially explosive mixtures may form above water surface.  
Attention in stagnant and very slow flowing waters!

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)

Bacterial toxicity:

EC50 Pseudomonas putida: 6,000 mg/L/16h

### Mobility in soil

No data available

### Persistence and degradability

Further details:

Biodegradability: 70 %/28 d (OECD 301 D)

### Additional ecological information

Oxygen demand:

CSB: 1,51 g/g

ThSB: 1,512 g/g

Volatile organic compounds (VOC):

100 % by weight / 934 g/L

General information:

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

## 13. Disposal considerations

### Product

Recommendation:

Incinerate as hazardous waste according to applicable local, state, and federal regulations.  
Do not empty into drains.

### Package

Recommendation:

Dispose of waste according to applicable legislation.

## 14. Transport information

### UN number

ADR/RID, IMDG, IATA-DGR:

UN 1231

### UN proper shipping name

ADR/RID, IMDG, IATA-DGR:

UN 1231, METHYL 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: UN1231  
Proper shipping name: UN 1231, METHYL ACETATE  
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 1231  
Proper shipping name: UN 1231, METHYL ACETATE  
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, volatile liquid with a fragrant odour. Flashpoint: -10°C c.c.  
Explosive limits: 3% to 16%. Miscible with water.  
Marine pollutant: no  
Segregation group: none

### Air transport (IATA)

UN/ID number: UN 1231  
Proper shipping name: UN 1231, METHYL ACETATE  
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): 3H

## 15. Regulatory information

### National regulations - U.S. Federal Regulations

TSCA Inventory: listed  
Clean Air Act:  
CAA SOCM Chemical: yes  
NIOSH Recommendations:  
Occupational Health Guideline: 0391\*

### National regulations - U.S. State Regulations

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  
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

### National regulations - Canada

DSL: listed

### National regulations - Great Britain

Hazchem-Code: •2YE

## 16. Other information

Text for labeling: Contains 100 % Methyl acetate.  
Contains Methyl 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

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  
 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  
 log P(o/w): Partition coefficient: octanol/water  
 MARPOL: Maritime Pollution: The International Convention for the Prevention of Pollution from Ships  
 NOAEC: No observed adverse 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  
 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  
 TLV: Threshold Limit Value  
 TRGS: Technical Rules for Hazardous Substances  
 UN: United Nations  
 vPvB: Very persistent and very bioaccumulative  
 WEL: Workplace Exposure Limit

### Literature:

European Commission: Methyl Acetate, Risk Assessment Report, 2003

### Reason of change:

Changes in section 8: Occupational exposure limit values

### Date of first version:

9/9/1994

## 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.