

1. Product and company identification

Product identifier

Trade name: 634A6 - Thinner for Contact Cement

This safety data sheet pertains to the following products:
634A6 = Verdünnung für 636N9

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

General use: Solvent, Thinner 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

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: Form: liquid

Color: colorless, clear

Odor: characteristic like organic solvents

Classification: Flammable Liquid - Category 2. Skin Irritation - Category 2. Eye Irritation - Category 2A. Reproductive toxicant - Category 2.

Specific Target Organ Toxicity (Single Exposure) - Category 3.

Specific Target Organ Toxicity (Repeated Exposure) - Category 2. Aspiration Toxicity -

Category 1. Aquatic toxicity - chronic - Category 2.

Hazard symbols:



Signal word:

Danger

Hazard statements:

Highly flammable liquid and vapor.
May be fatal if swallowed and enters airways.
Causes skin irritation.
Causes serious eye irritation.
May cause drowsiness or dizziness.
Suspected of damaging the unborn child.
May cause damage to organs through prolonged or repeated exposure.
Toxic to aquatic life with long lasting effects.

Precautionary statements:

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Do not breathe vapors.
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection/face protection.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Call a doctor if you feel unwell.
Do NOT induce vomiting.

Regulatory status

This material is considered hazardous by the U.S. OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazards not otherwise classified

Vapors may form explosive mixtures with air.
In case of inhalation: Short term effect: A concentration that is hazardous to health occurs rapidly. Long exposure to vapor saturated air may cause serious damage with lasting side effects.
see section 11: Toxicological information

3. Composition / Information on ingredients

Chemical characterization: Mixture of solvents

Relevant ingredients:

CAS No.	Designation	Concentration	Classification
CAS 64742-49-0	Special petrol	25 - 50 %	Flammable Liquid - Category 2. Skin Irritation - Category 2. Specific Target Organ Toxicity (Single Exposure) - Category 3. Aspiration Toxicity - Category 1. Aquatic toxicity - chronic - Category 2.
CAS 79-20-9	Methyl acetate	25 - 50 %	Flammable Liquid - Category 2. Eye Irritation - Category 2A. Specific Target Organ Toxicity (Single Exposure) - Category 3.
CAS 108-88-3	Toluene	10 - 25 %	Flammable Liquid - Category 2. Skin Irritation - Category 2. Reproductive toxicant - Category 2. Specific Target Organ Toxicity (Single Exposure) - Category 3. Specific Target Organ Toxicity (Repeated Exposure) - Category 2. Aspiration Toxicity - Category 1.

4. First aid measures

In case of inhalation:	Move victim to fresh air, put at rest and loosen restrictive clothing. 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. If breathing becomes irregular or ceases, apply rescue breathing or artificial respiration immediately, where required supply oxygen. Seek medical attention.
Following skin contact:	After contact with skin, wash immediately with soap and plenty of water. Take off immediately all contaminated clothing.
After eye contact:	Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Subsequently consult an ophthalmologist.
After swallowing:	Have victim drink large quantities of water, with active charcoal if possible. Immediately get medical attention. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

May be fatal if swallowed and enters airways.
May cause drowsiness or dizziness.
Prolonged exposure to high concentrations may irritate respiratory system, cause headaches, dizziness and effects of the central nervous system., nausea, unconsciousness, apnea.
Causes serious eye irritation. Causes skin irritation.
Expect absorption through the skin.

Information to physician

after ingestion: Attention in case of vomiting and stomach pumping: danger of aspiration. Accelerate intestinal transit. Have victim repeatedly drink large amounts of water with activated charcoal. Finally with sodium sulfate additive. In case of vomiting, lay at least head on side. Move victim to fresh air, put at rest and loosen restrictive clothing. Do not allow victim to become chilled. Keep victim warm. Keep airway open. Castor oil and milk are contraindicated.

in case of inhalation: Move victim to fresh air, provide oxygen as needed. On irritation of the respiratory system use an aerosol dispenser and treat with 5 doses of dexamethasone aerosol (e.g. Auxiloson, Thomae) every 10 minutes until symptoms cease. Take measures to prevent pneumonia, infections and other symptoms, in particular acidity-alkalinity.

5. Fire fighting measures

Flash point/flash point range:

-13 °F (DIN 53213)

Auto-ignition temperature: No data available

Suitable extinguishing media:

Water spray jet, alcohol resistant foam, dry chemical powder, 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. 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.

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

In case of fire: Toxic gases may form.

In case of fire may be liberated: 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.

6. Accidental release measures

Personal precautions:

Eliminate all ignition sources if safe to do so.

Wear appropriate protective equipment. Keep unprotected people away.

Avoid contact with the substance. Provide adequate ventilation.

Avoid breathing vapors.

Environmental precautions:

Do not allow to enter into ground-water, surface water or drains.

Methods for clean-up:

Seal off. Remove all sources of ignition. Plug leak if safely possible. Seal all low level rooms. Absorb leftover product with non-flammable liquid-binding material (e.g. earth, sand, vermiculite or ground sand stone) and place in closed containers for disposal.

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

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.
Do not allow containers to stand open. Store product in a quantity adequate for 1 work-shift only. Provide good ventilation and/or an exhaust system in the work area.

Precautions against fire and explosion:

Keep away from sources of ignition - No smoking.
Take precautionary measures against static discharges.
Ground all containers and instruments.
Use only explosion-protected equipment/instruments.
Do not use air pressure to deliver.

liquid: Highly flammable.
Vapors: Very highly flammable.
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. Take precautionary measures against static discharges.
Keep container dry.

Hints on joint storage: Do not store together with combustible materials or highly flammable solids.

8. Exposure controls / personal protection

Exposure guidelines

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value
79-20-9	Methyl acetate	USA: ACGIH: STEL	757 mg/m ³ ; 250 ppm
		USA: ACGIH: TWA	606 mg/m ³ ; 200 ppm
		USA: IDLH: TWA	3,100 ppm [10% LEL]
		USA: NIOSH: STEL	760 mg/m ³ ; 250 ppm
		USA: NIOSH: TWA	610 mg/m ³ ; 200 ppm
		USA: OSHA: TWA	610 mg/m ³ ; 200 ppm
108-88-3	Toluene	USA: ACGIH: TWA	20 ppm
		USA: IDLH: TWA	500 ppm
		USA: NIOSH: STEL	560 mg/m ³ ; 150 ppm
		USA: NIOSH: TWA	375 mg/m ³ ; 100 ppm
		USA: OSHA: Ceiling	500 ppm
		USA: OSHA: STEL	300 ppm
		USA: OSHA: TWA	200 ppm

Biological limit values:

CAS No.	Designation	Type	Limit value	Parameter	Sampling
108-88-3	Toluene	USA:	0.02 mg/L	Toluene in blood	Prior to last shift of workweek
		ACGIH-BEI, blood			
		USA:	0.03 mg/L	Toluene in urine	end of exposure or end of shift
		ACGIH-BEI, urine			
		USA:	0.3 mg/g	o-Cresol in urine	end of exposure or end of shift
		ACGIH-BEI, urine	creatinine		

Engineering controls

Use only closed, grounded equipment with this product. Extract vapors by suction at point of emission. Process exhaust through separator/filter as needed.
Product is an excellent solvent for a variety of natural and synthetic resins as well as for oils, fats, and softeners.

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.

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

Glove material: Fluororubber (Viton) or Butyl caoutchouc (butyl rubber) - Layer thickness: 0,7 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. Use filter type A (= against vapors of 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/vapor/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

General hygiene considerations:

Do not breathe vapors.

Avoid contact with skin and eyes.

Keep away from sources of ignition - No smoking.

Take off immediately all contaminated clothing.

Wash hands before breaks and after work.

Environmental exposure controls

Refer to 6.: Section "Environmental precautions".

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance: Form: liquid
Color: colorless, clear

Odor: characteristic like organic solvents

Odor threshold: No data available

pH:	No data available
Melting point/freezing point:	No data available
Initial boiling point and boiling range:	134.6 °F
Flash point/flash point range:	-13 °F (DIN 53213)
Evaporation rate:	No data available
Flammability:	No data available
Explosion limits:	LEL (Lower Explosion Limit): 1.00 Vol-% UEL (Upper Explosive Limit): 16.00 Vol-%
Vapor pressure:	at 68 °F: 245 hPa at 122 °F: 920 hPa
Vapor density:	No data available
Density:	at 68 °F: 0.79 g/mL
Water solubility:	at 68 °F: slightly miscible
Partition coefficient: n-octanol/water:	No data available
Auto-ignition temperature:	No data available
Thermal decomposition:	At normal air pressure, the product may be distilled without decomposition.
Viscosity, kinematic:	at 68 °F: 10 s (DIN 53211/4)
Explosive properties:	Product is not explosive. Vapors may form explosive mixtures with air.
Ignition temperature:	851 °F

10. Stability and reactivity

Reactivity:	Highly flammable liquid and vapor.
Chemical stability:	Product is stable under normal storage conditions.
Possibility of hazardous reactions:	Vapors may form explosive mixtures with air. 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. Heating will lead to pressure increase: Danger of bursting and explosion.
Conditions to avoid:	May become electrostatically charged. Take precautionary measures against static discharge. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Incompatible materials:	No data available
Hazardous decomposition products:	In case of fire may be liberated: Carbon monoxide and carbon dioxide. Contact with water causes product to separate into acetic acid and methyl alcohol.
Thermal decomposition:	At normal air pressure, the product may be distilled without decomposition.

11. Toxicological information

Toxicological tests

Acute toxicity:	LD50 Rabbit, percutan: <= 3,000 mg/kg
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Toxicological effects:	Acute toxicity (oral): Lack of data.
	Acute toxicity (dermal): Lack of data.
	Acute toxicity (inhalative): Lack of data.
	Skin corrosion/irritation: Skin Irritation - Category 2 = Causes skin irritation.
	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: Reproductive toxicant - Category 2 = Suspected of damaging the unborn child.
	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): Specific Target Organ Toxicity (Repeated Exposure) - Category 2 = May cause damage to organs through prolonged or repeated exposure.
	Aspiration hazard: Aspiration Toxicity - Category 1 = May be fatal if swallowed and enters airways.
Other information:	Mild acute toxicity following ingestion, inhalation or absorption through the skin.

Symptoms

In case of inhalation:
Prolonged exposure to high concentrations may irritate respiratory system, cause headaches, dizziness and effects of the central nervous system., nausea, unconsciousness, apnea.
After contact with skin: Repeated exposure may cause skin dryness or cracking.
Expect absorption through the skin.

12. Ecological information

Ecotoxicity

Aquatic toxicity: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Mobility in soil

No data available

Persistence and degradability

Further details: No data available

Additional ecological information

Volatile organic compounds (VOC):

100 % by weight / 790 g/L

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

13. Disposal considerations

Product

Recommendation: Incinerate according to applicable local, state and federal regulations.

Package

Recommendation: Dispose of waste according to applicable legislation.

14. Transport information

UN number

ADR/RID, IMDG, IATA-DGR:

UN 1993

UN proper shipping name

ADR/RID, IMDG, IATA-DGR:

UN 1993, FLAMMABLE LIQUID, N.O.S.

(Naphtha (petroleum), hydrotreated light, butadiene-free, 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: yes

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.
(Naphtha (petroleum), hydrotreated light, butadiene-free, Methyl 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. (Naphtha (petroleum), hydrotreated light, butadiene-free, Methyl acetate)
Class or division, Subsidiary 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:	yes
Segregation group:	none

Air transport (IATA)

UN/ID number:	UN 1993
Proper shipping name::	UN 1993, FLAMMABLE LIQUID, N.O.S. (Naphtha (petroleum), hydrotreated light, butadiene-free, 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
Special Provisions:	A3
Emergency Response Guide-Code (ERG):	3H

15. Regulatory information

National regulations - U.S. Federal Regulations

Special petrol:	TSCA Inventory: listed; UVCB
Methyl acetate:	TSCA Inventory: listed
	Clean Air Act:
	CAA SOCM I Chemical: yes
	NIOSH Recommendations:
	Occupational Health Guideline: 0391*
Toluene:	TSCA Inventory: listed
	Carcinogen Status:
	IARC Rating: Group 3
	OSHA Carcinogen: not listed
	NTP Rating: not listed
	Clean Air Act:
	CAA Hazardous Air Pollutants: yes
	CAA SOCM I Chemical: yes
	Clean Water Act:
	CWA Hazardous Substances: RQ 1000 lbs.
	CWA Priority Pollutants: yes
	Other Environmental Laws:
	CERCLA: RQ 1000 lbs.
	RCRA Hazardous Wastes: Code U220
	RCRA Groundwater Monitoring: Methods 8020, 8240 / PQL 2, 5
	SARA Title III - Section 313, Toxic Release: Conc. 1.0% / Threshold Standard
	NIOSH Recommendations:
	Occupational Health Guideline: 0619

National regulations - U.S. State Regulations

Methyl acetate:	<p>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</p>
Toluene:	<p>California Proposition 65: developmental Delaware Air Quality Management List: DRQ: 1000 - RQ State: Federal Regulations Apply Idaho Air Pollutant List: Title 585: AAC: 18.75 - EL: 25 - OEL: 375 - Title 586: - Maine Hazardous Air Pollutants: Me 2005: HAP - Hap Rpt: 2000 Massachusetts Haz. Substance codes: 2,4,5,6 F7 F8 F9 Michigan Critical Material: Note: - - CMR: 32 - Parameter: 00108-88-3 - Annual Usage Parameter: 100 Minnesota Haz. Substance: Codes: ANO - Ratings: 8.64 - Status: Air Pollutant Title III. TRI. Water Pollutant New Jersey RTK Hazardous Substance: DOT: 1294 - Sub No.: 1866 - TPQ: - New York List of Hazardous Substances: RQ-Air: 1000 - RQ-Land: 1 - Note: No Note Associated with this chemical. Pennsylvania Haz. Substance code: E Washington Air Contaminant: TWA: 100 ppm - 375 mg - STEL: 150 ppm - 560 mg</p>

National regulations - Canada

Special petrol:	DSL: listed
Methyl acetate:	DSL: listed
Toluene:	DSL: listed

National regulations - Great Britain

Hazchem-Code: •3YE

16. Other information

Text for labeling: Contains 25 - 50 % Special petrol, 25 - 50 % Methyl acetate, 10 - 25 % Toluene.
Contains toluene and Naphtha (petroleum), hydrotreated light, butadiene-free

Hazard rating systems:



NFPA Hazard Rating:
Health: 2 (Moderate)
Fire: 3 (Serious)
Reactivity: 0 (Minimal)

HMIS Version III Rating:
Health: 2 (Moderate)
Flammability: 3 (Serious)
Physical Hazard: 0 (Minimal)
Personal Protection: X = Consult your supervisor

HEALTH	2
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
 Aquatic toxicity - chronic: Hazardous to the aquatic environment - chronic
 AS/NZS: Australian Standards/New Zealand Standards
 Aspiration Toxicity: Aspiration toxicity
 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
 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
 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
 Reproductive toxicant: Reproductive toxicity
 RID: Regulations Concerning the International Carriage of Dangerous Goods by Rail
 Skin Irritation: Skin irritation
 STOT RE: Specific target organ toxicity - repeated exposure
 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 8: Occupational exposure limit values

Date of first version: 10/19/1994

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.