

## 1. Product and company identification

### Product identifier

Trade name: 636K44 – Loctite 3090 Part A

This safety data sheet pertains to the following products:  
636K44 = Loctite 3090

### Recommended use and restrictions on use

General use: Instant adhesive (cyanoacrylate) for orthopedic procedures, Component A.  
Reserved for industrial and professional use.

### Initial supplier identifier

Company name: Otto Bock HealthCare Canada Ltd.

Street/POB-No.: 5470 Harvester Road

Postal Code, city: Burlington, ON L7L 5N5, CA  
Canada

WWW: [www.ottobock.ca](http://www.ottobock.ca)

E-mail: [info.canada@ottobock.com](mailto:info.canada@ottobock.com)

Telephone: (800) 665-3327

Telefax: (800) 463-3659

Department responsible for information:

Mark Agro, Telephone: (800) 665-3327 (9 am - 5 pm)

Additional information:

Corporate headquarters:  
Ottobock SE & Co. KGaA  
Max-Näder-Straße 15  
Duderstadt  
Germany

### Emergency phone number

**COLLECT, Telephone: (613) 996-6666**

**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 20 °C and 101.3 kPa: liquid

Form: Gel

Color: colorless

Odor: Irritant

Classification: Flammable Liquid 4. Skin Irritation 2. Eye Irritation 2A.  
Specific Target Organ Toxicity (Single Exposure) 3.

Hazard symbols:



Signal word:

**Warning**

Hazard statements:

- Combustible liquid.
- Causes skin irritation.
- Causes serious eye irritation.
- May cause respiratory irritation.

Precautionary statements:

- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Avoid breathing vapors.
- Wash hands and face thoroughly after handling.
- 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.
- In case of fire: Use water spray, dry powder, foam or carbon dioxide for extinction.

## Regulatory status

This material is considered hazardous by the WHMIS in Canada.

## Hazards not otherwise classified

Special danger of slipping by leaking/spilling product.

see section 11: Toxicological information

## 3. Composition / Information on ingredients

Chemical characterisation: Adhesive based on cyanoacrylic acid ester

Relevant ingredients:

CAS No.	Designation	Concentration	Classification
CAS 7085-85-0	Ethyl 2-cyanoacrylate	50 - 100 %	Skin Irritation 2. Eye Irritation 2A. Specific Target Organ Toxicity (Single Exposure) 3.

## 4. First aid measures

General information: Cyanoacrylate. Danger. Bonds skin and eyes in seconds. Keep out of the reach of children. Take off contaminated clothing and wash it before reuse. If medical advice is needed, have product container or label at hand.

In case of inhalation: Move victim to fresh air, put at rest and loosen restrictive clothing. If breathing has stopped, give artificial respiration immediately. Seek medical attention.

Following skin contact: Immediately clean with water and soap followed by thorough rinsing. If product comes into contact with lips, hold mouth open. Do not allow lips to contact one another. If lips are bonded together, use warm water to gently separate the lips apart. Do not peel solidified product off the skin. Immediately get medical attention.

After eye contact: Keep eye wide open. Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Do not attempt to pull apart bonded eyelid. Subsequently seek the immediate attention of an ophthalmologist.

After swallowing: Seek medical advice immediately. Keep airway open. Saliva will cause a polymerization reaction in the mouth.

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

Causes serious eye irritation.  
Causes skin irritation.  
May cause respiratory irritation.

### Information to physician

Treat symptomatically.

## 5. Fire fighting measures

Flash point/flash point range:

80 - 93 °C

Auto-ignition temperature: No data available

Suitable extinguishing media:

Foam, extinguishing powder, carbon dioxide, water spray jet.

Extinguishing media which must not be used for safety reasons:

Full water jet

### Specific hazards arising from the chemical

Combustible liquid.

In case of fire may be liberated: Nitrogen oxides (NO<sub>x</sub>), carbon monoxide and carbon dioxide.

Special protective equipment and precautions for fire-fighters:

Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information:

Do not inhale explosion and combustion gases. Cool endangered containers with water jetspray. Do not allow fire water to penetrate into surface or ground water. Fire residuals and contaminated extinguishing water must be disposed of in accordance with the regulations of the local authorities.

## 6. Accidental release measures

Personal precautions:

Cyanacrylate - Danger - skin and eyelids will stick together in seconds.  
Avoid contact with skin and eyes. Do not breathe vapors.  
Keep unprotected people away. Wear appropriate protective equipment.  
If possible, eliminate leakage. Provide adequate ventilation.  
Take off contaminated clothing and wash it before reuse.

Environmental precautions:

Do not allow to enter into ground-water, surface water or drains.  
If necessary, notify appropriate authorities.

Methods for clean-up:

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.  
After contact with water: Product polymerized. Take up mechanically, placing in appropriate containers for disposal.

Additional information:

Special danger of slipping by leaking/spilling product.

## 7. Handling and storage

### Handling

Advices on safe handling: Cyanacrylate - Danger - skin and eyelids will stick together in seconds.  
Provide adequate ventilation, and local exhaust as needed. Wear appropriate protective equipment.  
Avoid contact with skin and eyes. Do not breathe vapors. Take off contaminated clothing and wash it before reuse.  
Work place should be equipped with a shower and an eye rinsing apparatus.  
Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

Precautions against fire and explosion:

Keep away from sources of ignition - No smoking.  
Take precautionary measures against static discharges.

### Storage

Requirements for storerooms and containers:

Keep only in the original container.  
Keep container tightly closed in a cool place.  
Protect from humidity and water. Store containers in upright position.  
Protect from heat and direct sunlight.

Hints on joint storage:

Do not store together with alkalis, water, amines or alcohol.  
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
7085-85-0	Ethyl 2-cyanoacrylate	Canada: OEL 8 hour	1 mg/m <sup>3</sup> ; 0.2 ppm
		Canada: OEL TWA	0.2 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.  
Protective gloves according to OSHA Standard - 29 CFR: 1910.138.  
By short-term hand contact:  
Glove material: Nitrile rubber - Layer thickness: ≥ 0.4 mm.  
Breakthrough time: > 480 min.  
Larger quantities:  
Glove material: Polyethylene, polypropylene  
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.  
Unsuitable glove material: PVC, rubber, nylon.

**Respiratory protection:** In case of inadequate ventilation wear 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:**  
Cyanacrylate - Danger - skin and eyelids will stick together in seconds.  
Avoid contact with skin and eyes. Do not breathe vapors. Take off contaminated clothing and wash it before reuse.  
Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Work place should be equipped with a shower and an eye rinsing apparatus.

### 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 20 °C and 101.3 kPa: liquid Form: Gel Color: colorless
Odor:	Irritant
Odor threshold:	1-2 ppm
pH:	Not applicable
Melting point/freezing point:	Not applicable
Initial boiling point and boiling range:	> 149 °C
Flash point/flash point range:	80 - 93 °C
Evaporation rate:	No data available
Flammability:	Combustible liquid.
Explosion limits:	No data available
Vapor pressure:	at 20 °C: ≤ 0.67 hPa at 50 °C: ≤ 700 hPa
Vapor density:	at 20 °C: ≥ 1
Density:	at 20 °C: 1.05 g/mL
Water solubility:	Insoluble, Polymerizes when in contact with: water
Partition coefficient: n-octanol/water:	at 22 °C: 0.776 log P(o/w) (Ethyl 2-cyanoacrylate) 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:	18,000 - 40,000 mPa*s (Brookfield)
Viscosity, kinematic:	at 40 °C: > 20.5 mm²/s
Additional information:	Solidifying temperature: < -25 °C

## 10. Stability and reactivity

**Reactivity:** Refer to subsection "Possibility of hazardous reactions".

Chemical stability:	Stable under recommended storage conditions.
Possibility of hazardous reactions:	Exothermic reactions with water, amines, alcohol, alkalis. Polymerization along with heat production.
Conditions to avoid:	Keep away from heat sources, sparks and open flames. Protect from direct sunlight. Protect from humidity and water.
Incompatible materials:	Water, alkalis, alcohol and amines
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

<p>Toxicological effects:</p> <p>The statements are derived from the properties of the single components. No toxicological data is available for the product as such.</p> <p>Acute toxicity (oral): Based on available data, the classification criteria are not met.</p> <p>ATEmix (calculated): &gt; 5,000 mg/kg</p> <p>Acute toxicity (dermal): Lack of data.</p> <p>Acute toxicity (inhalative): Lack of data.</p> <p>Skin corrosion/irritation: Skin Irritation 2 = Causes skin irritation.</p> <p>Serious eye damage/irritation: Eye Irritation 2A = Causes serious eye irritation.</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>Information about Ethyl 2-cyanoacrylate: Not known to cause sensitization.</p> <p>Germ cell mutagenicity/Genotoxicity: Based on available data, the classification criteria are not met.</p> <p>Information about Ethyl 2-cyanoacrylate according to examination report (OECD 471, 476, 473): negative</p> <p>Carcinogenicity: Lack of data.</p> <p>Reproductive toxicity: Lack of data.</p> <p>Effects on or via lactation: Lack of data.</p> <p>Specific target organ toxicity (single exposure): Specific Target Organ Toxicity (Single Exposure) 3 = May cause respiratory irritation.</p> <p>Specific target organ toxicity (repeated exposure): Lack of data.</p> <p>Aspiration hazard: Lack of data.</p>	<p>Other information:</p> <p>Information about Ethyl 2-cyanoacrylate (CAS 7085-85-0):</p> <p>LD50 Rat, oral: &gt; 5,000 mg/kg (OECD 423)</p> <p>LD50 Rabbit, dermal: &gt; 2,000 mg/kg (OECD 402)</p>
--	--

### Symptoms

In case of inhalation:  
Cough, shortness of breath, shortage of breath, cramp feeling in breast.

After contact with skin: Reddening, Ignition

After eye contact: Irritation, conjunctivitis

## 12. Ecological information

### Ecotoxicity

Aquatic toxicity: After contact with water: Polymerisation.

### Mobility in soil

No data available

### Persistence and degradability

Further details: Information about Ethyl 2-cyanoacrylate (CAS 7085-85-0):  
 Degradation aerobic: 57 %/28 d (OECD 301 D)  
 Not easily bio-degradable.

### Additional ecological information

Volatile organic compounds (VOC):

< 3 %

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

## 13. Disposal considerations

### Product

Recommendation: Product, cured: Dispose of waste according to applicable legislation.  
 Do not dispose of with household waste.

### Package

Recommendation: Incinerate as hazardous waste according to applicable local, state, and federal regulations.  
 Handle contaminated packages in the same way as the substance itself.

## 14. Transport information

### UN number

ADR/RID, IMDG: not applicable

IATA-DGR: UN 3334

### UN proper shipping name

ADR/RID, IMDG: Not restricted

IATA-DGR: UN 3334, AVIATION REGULATED LIQUID, N.O.S. (Ethyl 2-cyanoacrylate)

### Transport hazard class(es)

ADR/RID, IMDG: not applicable

IATA-DGR: Class 9

### Packing group

ADR/RID, IMDG: not applicable

IATA-DGR: III

### Environmental hazards

Marine pollutant: no

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No data available

#### Canada: Transportation of Dangerous Goods (TDG)

UN Number: UN1133  
 Shipping name: UN 1133, adhesives  
 TDG class: 3  
 Packing group: III  
 Explosive limit and limited quantity index: 5L  
 Passenger carrying road or rail index: 60L

#### Sea transport (IMDG)

Proper shipping name: Not restricted  
 Marine pollutant: no

#### Air transport (IATA)

UN/ID number: UN 3334  
 Proper shipping name: UN 3334, AVIATION REGULATED LIQUID, N.O.S. (Ethyl 2-cyanoacrylate)  
 Class or division, Subsidiary risk: Class 9  
 Packing Group: III  
 Hazard label: Miscellaneous  
 Excepted Quantity Code: E1  
 Passenger and Cargo Aircraft: Ltd.Qty.: Pack.Instr. Y964 - Max. Net Qty/Pkg. 30 kg G  
 Passenger and Cargo Aircraft: Pack.Instr. 964 - Max. Net Qty/Pkg. 450 L  
 Cargo Aircraft only: Pack.Instr. 964 - Max. Net Qty/Pkg. 450 L  
 Special Provisions: A27  
 Emergency Response Guide-Code (ERG): 9A

## 15. Regulatory information

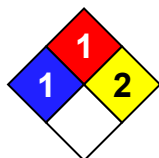
#### National regulations - Canada

Ethyl 2-cyanoacrylate: DSL: listed

## 16. Other information

Text for labeling: Contains 50 - 100 % Ethyl 2-cyanoacrylate. Safety data sheet available on request.

Hazard rating systems:



NFPA Hazard Rating:

Health: 1 (Slight)  
 Fire: 1 (Slight)  
 Reactivity: 2 (Moderate)

HMIS Version III Rating:

Health: 1 (Slight)  
 Flammability: 1 (Slight)  
 Physical Hazard: 2 (Moderate)  
 Personal Protection: X = Consult your supervisor

HEALTH	1
FLAMMABILITY	1
PHYSICAL HAZARD	2
	X

Classification procedure: Physical hazards: on basis of test data  
 Health hazards, environmental hazards: calculation method



### 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  
 ATEMix: Acute Toxicity Estimate of mixture  
 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%  
 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  
 OEL: Occupational Exposure Limit Value  
 OSHA: Occupational Safety and Health Administration  
 PBT: Persistent, bioaccumulative and toxic  
 PNEC: Predicted no-effect concentration  
 PVC: Polyvinyl chloride  
 RID: Regulations Concerning the International Carriage of Dangerous Goods by Rail  
 Skin Irritation: Skin irritation  
 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  
 WHMIS: Workplace Hazardous Materials Information System

Reason of change: General revision

Date of first version: 23/6/2017

### 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.