

## 1. Product and company identification

### Product identifier

Trade name: 636K13 - Loctite 241

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

General use: Anaerobe sealing agent.  
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: blue  
fluorescent  
Odor: Mild, like acryl  
Classification: Skin Irritation - Category 2. Eye Irritation - Category 2A.  
Specific Target Organ Toxicity (Repeated Exposure) - Category 2.  
Aquatic toxicity - chronic - Category 3.

Hazard symbols:



Signal word:

**Warning**

Hazard statements: Causes skin irritation.  
Causes serious eye irritation.  
May cause damage to organs through prolonged or repeated exposure.  
Harmful to aquatic life with long lasting effects.

Precautionary statements: Do not breathe mist/vapors/spray.  
Wash hands and face thoroughly after handling.  
Avoid release to the environment.  
Wear protective gloves/protective clothing/eye protection.  
IF ON SKIN: Wash with plenty of water/soap.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
Get medical advice/attention if you feel unwell.  
Specific treatment (see 'First aid' on this label).  
If skin irritation occurs: Get medical advice/attention.  
If eye irritation persists: Get medical advice/attention.  
Take off contaminated clothing and wash it before reuse.  
Dispose of contents/container to hazardous or special waste collection point.

## Regulatory status

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

## Hazards not otherwise classified

Special danger of slipping by leaking/spilling product.  
see section 11: Toxicological information

### 3. Composition / Information on ingredients

Relevant ingredients:

CAS No.	Designation	Concentration	Classification
CAS 80-15-9	Cumene hydroperoxide	< 3 %	Organic Peroxide - Category E. Acute Toxicity - oral - Category 4. Acute Toxicity - dermal - Category 4. Acute Toxicity - inhalative - Category 2. Skin Corrosion - Category 1B. Specific Target Organ Toxicity (Single Exposure) - Category 3. Specific Target Organ Toxicity (Repeated Exposure) - Category 2. Aquatic toxicity - chronic - Category 2.
CAS 613-48-9	N,N-diethyl-p-toluidine	< 3 %	Acute Toxicity - oral - Category 3. Acute Toxicity - dermal - Category 3. Acute Toxicity - inhalative - Category 3. Skin Irritation - Category 2. Specific Target Organ Toxicity (Repeated Exposure) - Category 2. Aquatic toxicity - chronic - Category 3.
CAS 609-72-3	N,N-Dimethyl-o-toluidine	< 1 %	Acute Toxicity - oral - Category 3. Acute Toxicity - dermal - Category 3. Acute Toxicity - inhalative - Category 3. Specific Target Organ Toxicity (Repeated Exposure) - Category 2. Aquatic toxicity - chronic - Category 3.
CAS 79-41-4	Methacrylic acid	< 1 %	Acute Toxicity - oral - Category 4. Acute Toxicity - dermal - Category 3. Acute Toxicity - inhalative - Category 4. Skin Corrosion - Category 1A. Eye Damage - Category 1. 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.
In case of inhalation:	Move victim to fresh air. Seek medical attention.
Following skin contact:	After contact with skin, wash immediately with soap and plenty of water. Take off contaminated clothing and wash it before reuse. Consult a doctor if skin irritation persists.
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

Causes serious eye irritation.

Causes skin irritation.

May cause damage to organs through prolonged or repeated exposure.

### Information to physician

Treat symptomatically.

## 5. Fire fighting measures

Flash point/flash point range:

> 212 °F

Auto-ignition temperature: No data available

Suitable extinguishing media:

Water spray jet, dry chemical powder, foam, carbon dioxide.

Extinguishing media which must not be used for safety reasons:

Full water jet

### Specific hazards arising from the chemical

Emits toxic fumes under fire conditions.

Furthermore, there may develop: Nitrogen oxides (NO<sub>x</sub>), carbon monoxide and carbon dioxide.

Protective equipment and precautions for firefighters:

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

Additional information:

Use fine water spray to cool endangered containers. Do not allow water used to extinguish fire to enter drains, ground or waterways.

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:

Avoid contact with skin and eyes. Provide adequate ventilation. Wear appropriate protective equipment. Take off contaminated clothing and wash it before reuse. Keep unprotected people away. Avoid breathing mist/vapors/spray.

Environmental precautions:

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

Methods for clean-up:

Smaller amounts:

Collect spilled material using paper towels and dispose.

Large amounts:

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents) and place in closed containers for disposal. Special waste. Final cleaning: Remove residues with soap and water.

Additional information:

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 contact with skin and eyes. Wear appropriate protective equipment. Take off contaminated clothing and wash it before reuse. Avoid breathing mist/vapors/spray. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work. Have eye wash bottle or eye rinse ready at work place.

### Storage

Requirements for storerooms and containers:

Keep only in the original container.  
Keep away from sources of ignition and heat.  
Do not return unused portions of product to original container.

Hints on joint storage: Do not store together with: strong oxidizing agents, acids, reducing agents, strong bases  
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
79-41-4	Methacrylic acid	USA: ACGIH: TWA USA: NIOSH: TWA	70 mg/m <sup>3</sup> ; 20 ppm 70 mg/m <sup>3</sup> ; 20 ppm (may be absorbed through the skin)

### Engineering controls

Provide for good ventilation or exhaust system or work with completely self-contained 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: Wear suitable protective clothing.  
Protective gloves according to OSHA Standard - 29 CFR: 1910.138.  
Glove material: Nitrile rubber - Layer thickness:  $\geq 0,4$  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. In case of inadequate ventilation wear respiratory protection.  
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.

### General hygiene considerations:

When using do not eat, drink or smoke. Keep away from food and drinks. Avoid contact with skin and eyes. Take off contaminated clothing and wash it before reuse. Avoid breathing mist/vapors/spray. Have eye wash bottle or eye rinse ready at work place. 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:	Physical state at 68 °F and 101.3 kPa: liquid Color: blue fluorescent
Odor:	Mild, like acryl
Odor threshold:	No data available
pH:	Not applicable
Melting point/freezing point:	-22 °F
Initial boiling point and boiling range:	> 300.2 °F
Flash point/flash point range:	> 212 °F
Evaporation rate:	No data available
Flammability:	This material is combustible, but will not ignite readily.
Explosion limits:	No data available
Vapor pressure:	at 68 °F: <= 0.13 hPa at 77 °F: 0.133 hPa at 122 °F: <= 300 hPa
Vapor density:	at 68 °F: >= 1
Density:	at 68 °F: 1.08 g/mL (DIN 51757)
Solubility:	in acetone miscible.
Water solubility:	Immiscible
Partition coefficient: n-octanol/water:	No data available
Auto-ignition temperature:	No data available
Thermal decomposition:	No data available
Viscosity, dynamic:	115 - 135 mPa*s
Viscosity, kinematic:	at 104 °F: > 20.5 mm²/s

## 10. Stability and reactivity

Reactivity:	Refer to subsection "Possibility of hazardous reactions".
Chemical stability:	Stable under recommended storage conditions.
Possibility of hazardous reactions:	Reacts with: strong oxidizing agents, acids, reducing agents, strong bases
Conditions to avoid:	Keep away from sources of ignition and heat.
Incompatible materials:	Strong oxidizing agents, acids, reducing agents, strong bases

**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: 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: Based on available data, the classification criteria are not met.

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): Lack of data.

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: Lack of data.

**Other information:**

Information about Cumene hydroperoxide (CAS 80-15-9):

LD50 Rat, oral: 382 mg/kg

ATE dermal: 1,100 mg/kg (Data obtained by expert judgement.)

LC50 Rat, inhalative (vapor): 1.37 mg/L/4h

Information about N,N-diethyl-p-toluidine (CAS 613-48-9):

ATE oral: 100 mg/kg (Data obtained by expert judgement.)

ATE dermal: 300 mg/kg (Data obtained by expert judgement.)

ATE inhalative (vapor): 3 mg/L (Data obtained by expert judgement.)

Information about N,N-Dimethyl-o-toluidine (CAS 609-72-3):

ATE oral: 100 mg/kg (Data obtained by expert judgement.)

ATE dermal: 300 mg/kg (Data obtained by expert judgement.)

ATE inhalative (dust/mist): 0.5 mg/L (Data obtained by expert judgement.)

Information about Methacrylic acid (CAS 79-41-4):

LD50 Rat, oral: 1,320 mg/kg (OECD 401)

LD50 Rat, dermal: 500 - 1,000 mg/kg

ATE dermal: 500 mg/kg (Data obtained by expert judgement.)

LC50 Rat, inhalative (dust/mist): 3.19 - 6.5 mg/L/4h (OECD 403)

ATE inhalative (dust/mist): 3.19 mg/L (Data obtained by expert judgement.)

### Symptoms

In case of inhalation:

Irritant, cough, shortness of breath, dyspnoea, cramp feeling in breast.

After contact with skin:

Frequently or prolonged contact with skin may cause dermal irritation.

After eye contact:

Upon direct contact with eyes may cause burning, tearing, redness. Conjunctivitis

## 12. Ecological information

### Ecotoxicity

Aquatic toxicity:

Harmful to aquatic life with long lasting effects.

Information about Cumene hydroperoxide (CAS 80-15-9):

Fish toxicity:

LC50 *Oncorhynchus mykiss*: 3.9 mg/L/96h (OECD 203)

Daphnia toxicity:

EC50 *Daphnia magna* (Big water flea): 18.84 mg/L/48h (OECD 202)

Algae toxicity:

EC50 *Desmodesmus subspicatus* (green algae), growth rate: 3.1 mg/L/72h (OECD 201)

NOEC *Desmodesmus subspicatus* (green algae), growth rate: 1 mg/L/72h (OECD 201)

Information about N,N-diethyl-p-toluidine (CAS 613-48-9):

Fish toxicity:

LC50 *Danio rerio* (zebrafish): 78.62 mg/L/96h (OECD 203)

Daphnia toxicity:

EC50 *Daphnia magna* (Big water flea): 10.34 mg/L/48h (OECD 202)

Algae toxicity:

EC50 *Raphidocelis subcapitata* (green algae), growth rate: 23.69 mg/L/72h (OECD 201)

Information about N,N-Dimethyl-o-toluidine (CAS 609-72-3):

Fish toxicity:

LC50 *Pimephales promelas* (fathead minnow): 46 mg/L/96h (OECD 203)

Information about Methacrylic acid (CAS 79-41-4):

Fish toxicity:

LC50 *Oncorhynchus mykiss*: 85 mg/L/96h (EPA OTS 797.1400)

NOEC *Danio rerio* (zebrafish): 10 mg/L/35d (OECD 210)

Daphnia toxicity:

EC50 *Daphnia magna* (Big water flea): > 130 mg/L/48h (EPA OTS 797.1300)

NOEC *Daphnia magna* (Big water flea): 53 mg/L/21d (OECD 211)

Algae toxicity:

EC50 *Selenastrum capricornutum* (green algae), growth rate: 45 mg/L/72h (OECD 201)

NOEC *Selenastrum capricornutum* (green algae), growth rate: 8.2 mg/L/72h (OECD 201)

Effects in sewage plants:

Bacterial toxicity:

Information about Cumene hydroperoxide (CAS 80-15-9):

EC10: 70 mg/L/30 min

Information about Methacrylic acid (CAS 79-41-4):

EC10 *Pseudomonas putida*: 100 mg/L/17h (DIN 38412, part 8)



### Mobility in soil

No data available

### Persistence and degradability

Further details:

Product is not biodegradable.

Information about Cumene hydroperoxide (CAS 80-15-9): 3 %/28 d (OECD 301 B), not easily degradable

Information about N,N-diethyl-p-toluidine (CAS 613-48-9): 1 %/28 d (OECD 301 C), not easily degradable

Information about N,N-Dimethyl-o-toluidine (CAS 609-72-3): 1 %/14 d, not easily degradable

Information about Methacrylic acid (CAS 79-41-4): 86 %/28 d (OECD 301 D), readily biodegradable

### Additional ecological information

Volatile organic compounds (VOC):

3 % by weight

General information:

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

## 13. Disposal considerations

#### Product

Recommendation:

Dispose of waste according to applicable legislation. Dispose of waste according to applicable legislation.

#### 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:

not applicable

#### UN proper shipping name

ADR/RID, IMDG, IATA-DGR:

Not restricted

#### Transport hazard class(es)

ADR/RID, IMDG, IATA-DGR:

not applicable

#### Packing group

ADR/RID, IMDG, IATA-DGR:

not applicable

#### 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)

Proper shipping name: Not restricted

#### Sea transport (IMDG)

Proper shipping name:: Not restricted

Marine pollutant: no

#### Air transport (IATA)

Proper shipping name:: Not restricted

#### Further information

No dangerous good in sense of these transport regulations.

## 15. Regulatory information

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

Cumene hydroperoxide:	TSCA Inventory: listed Clean Air Act: CAA SOCM Chemical: yes Other Environmental Laws: CERCLA: RQ 10 lbs. RCRA Hazardous Wastes: Code U096 SARA Title III - Section 313, Toxic Release: Conc. 1.0% / Threshold Standard OSHA Process Safety Management: Threshold 5000 lbs.
N,N-diethyl-p-toluidine:	TSCA Inventory: listed
N,N-Dimethyl-o-toluidine:	TSCA Inventory: listed
Methacrylic acid:	TSCA Inventory: listed Clean Air Act: CAA SOCM Chemical: yes NIOSH Recommendations: Occupational Health Guideline: 0386*

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

Cumene hydroperoxide:	California Proposition 65 code: - Delaware Air Quality Management List: DRQ: 10 - RQ State: Federal Regulations Apply Massachusetts Haz. Substance codes: 5,6 F8 F9 New Jersey Extraordinarily Hazardous Substances: NJ Threshold: 2500 - NJ Group: I - NJ Table: I Part D - NJ Basis: NFPA 325 New Jersey RTK Hazardous Substance: DOT: 2116 - Sub No.: 0543 - TPQ: - New York List of Hazardous Substances: RQ-Air: 10 - RQ-Land: 10 - Note: No Note Associated with this chemical. Pennsylvania Haz. Substance code: E
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## 16. Other information

Text for labeling:

Contains < 3 % Cumene hydroperoxide, < 3 % N,N-diethyl-p-toluidine, < 1 % N,N-Dimethyl-o-toluidine, < 1 % Methacrylic acid.

Hazard rating systems:



NFPA Hazard Rating:

Health: 2 (Moderate)

Fire: 1 (Slight)

Reactivity: 0 (Minimal)

HMIS Version III Rating:

Health: 2 (Moderate) - Chronic effects

Flammability: 1 (Slight)

Physical Hazard: 0 (Minimal)

Personal Protection: X = Consult your supervisor

HEALTH	*	2
FLAMMABILITY		1
PHYSICAL HAZARD		0
X		

Classification procedure:

Physical hazards: on basis of test data

Health hazards, environmental hazards: calculation method

Abbreviations and acronyms:

Acute Toxicity: Acute toxicity

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

ATE: Acute toxicity estimate

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 Damage: Eye damage

Eye Irritation: Eye irritation

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%

MARPOL: Maritime Pollution: The International Convention for the Prevention of Pollution from Ships

NOEC: No Observed Effect Concentration

OECD: Organisation for Economic Co-operation and Development

OEL: Occupational Exposure Limit Value

Organic Peroxide: Organic peroxide

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

Skin Corrosion: Skin corrosion

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

vPvB: Very persistent and very bioaccumulative

WEL: Workplace Exposure Limit

Reason of change: Changes in section 2: Classification, labeling  
Changes in section 3: Composition/information on ingredients  
Changes in section 9: Physical and chemical properties  
Changes in section 11: Toxicological information  
Changes in section 12: Ecological information  
General revision

Date of first version: 5/25/2003

**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.