

1. Product and company identification

Product identifier

Trade name: 636K49=A - SuperGlue Part A

This safety data sheet pertains to the following products:

636K49 = SuperGlue

636K49=0.010 = SuperGlue 10 ml

Recommended use and restrictions on use

General use: Adhesive, for orthopedic procedures

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

E-mail: 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: Paste

Color: Whitish

Odor: Typical, like Methyl methacrylate

Classification: Flammable Liquid 2. Skin Irritation 2. Eye Irritation 2A. Sensitization - skin 1. Specific Target Organ Toxicity (Single Exposure) 3.

Hazard symbols:



Signal word:

Danger

Hazard statements:

- Highly flammable liquid and vapor.
- Causes skin irritation.
- May cause an allergic skin reaction.
- 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 mist/vapors/spray.
- Wash hands and face thoroughly after handling.
- Wear protective gloves/protective clothing/eye protection.
- Call a POISON CENTER/doctor if you feel unwell.
- Take off contaminated clothing and wash it before reuse.
- Store in a well-ventilated place. Keep cool.

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: Elastomer (polymer) in a flammable liquid

Relevant ingredients:

| CAS No. | Designation | Concentration | Classification |
|-------------|---------------------|---------------|---|
| CAS 80-62-6 | Methyl methacrylate | 50 - 65 % | Flammable Liquid 2. Skin Irritation 2. Sensitization - skin 1. Specific Target Organ Toxicity (Single Exposure) 3. |
| CAS 79-41-4 | Methacrylic acid | < 3 % | Acute Toxicity 4 (oral). Acute Toxicity 3 (dermal). Acute Toxicity 4 (inhalative). Skin Corrosion 1A. Eye Damage 1. Specific Target Organ Toxicity (Single Exposure) 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. First aider: Pay attention to self-protection!

In case of inhalation: Move victim to fresh air; if necessary, provide artificial respiration or oxygen. Seek medical attention.

Following skin contact: After contact with skin, wash immediately with soap and plenty of water. In case of skin irritation, 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. Consult an ophthalmologist.

After swallowing: Do not induce vomiting. Never give anything by mouth to an unconscious person. Drink large quantities of water. Immediately get medical attention.

Most important symptoms and effects, both acute and delayed

May cause an allergic skin reaction. Causes serious eye irritation. Causes skin irritation.
May cause respiratory irritation.
Higher doses may lead to a narcotic effect.

Information to physician

Treat symptomatically.

5. Fire fighting measures

Flash point/flash point range:

11.5 °C (T.C.C.)

Auto-ignition temperature:

421 °C

Suitable extinguishing media:

Water spray jet, alcohol resistant foam, extinguishing 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. Concentrated vapors are heavier than air.
Air combined with vapors may form potentially explosive mixtures that are heavier than air.
Vapors may proceed on the ground over great distances and cause fire and backflashes.
In case of fire may be liberated: Smoke, hydrocarbons, nitrogen oxides (NOx), hydrogen chloride, carbon monoxide and carbon dioxide.

Special protective equipment and precautions for fire-fighters:

Wear self-contained positive pressure breathing apparatus and full firefighting protective clothing.

Additional information:

Heating will lead to pressure increase: Danger of bursting and explosion. Use fine water spray to cool endangered containers.

Move undamaged containers from immediate hazard area if it can be done safely.

In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

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:

Avoid breathing mist/vapors/spray. Avoid contact with the substance.

Eliminate all ignition sources if safe to do so. Provide adequate ventilation.

Wear appropriate protective equipment. Take off contaminated clothing and wash it before reuse. Keep unprotected people away.

Cordon off downwind area at risk and warn inhabitants.

Environmental precautions:

Do not allow to enter into ground-water, surface water or drains. Danger of explosion!

In case of release, notify competent authorities.

| | |
|-------------------------|--|
| Methods for clean-up: | Isolate leaked material using non-flammable absorption agent (e.g. sand, earth, vermiculit, diatomaceous earth) and collect it for disposal in appropriate containers in accordance with the local regulations (see section 13). Beware of reignition. Thoroughly clean surrounding area. In case of greater quantities: Collect mechanically (use only explosion-proof equipment when pumping out). |
| Additional information: | Use explosion-proof equipment and non-sparking tools/utensils. Special danger of slipping by leaking/spilling product. |

7. Handling and storage

Handling

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| Advices on safe handling: | Provide adequate ventilation, and local exhaust as needed. Avoid contact with skin and eyes. Wear appropriate protective equipment. Guarantee sufficient ventilation during and after use, in order to prevent vapour accumulation. Avoid breathing mist/vapors/spray. 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-protected equipment/instruments. Do not weld. In partially filled containers explosive mixtures may form. |

Storage

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| Requirements for storerooms and containers: | Keep container tightly closed and in a well-ventilated place. Keep container dry. Keep only in the original container. Protect from heat and direct sunlight. Store containers in upright position. Explosion protection required. Protect from frost. Storage temperature: < 25 °C |
| Hints on joint storage: | Do not store together with combustible or self-igniting materials or any highly flammable solids. Keep away from food, drink and animal feedingstuffs. Do not store together with: oxidizing agents, reducing agents, ammonia, halogens, acids (inorganic) |

8. Exposure controls / personal protection

Exposure guidelines

Occupational exposure limit values:

| CAS No. | Designation | Type | Limit value |
|---------|---------------------|--------------------|---------------------------------|
| 80-62-6 | Methyl methacrylate | Canada: OEL 15 min | 410 mg/m ³ ; 100 ppm |
| | | Canada: OEL 8 hour | 205 mg/m ³ ; 50 ppm |
| | | Canada: OEL STEL | 100 ppm |
| | | Canada: OEL TWA | 50 ppm |
| | | Canada: VECD | 100 ppm |
| | | Canada: VEMP | 50 ppm |
| 79-41-4 | Methacrylic acid | Canada: OEL 8 hour | 70 mg/m ³ ; 20 ppm |
| | | Canada: OEL TWA | 20 ppm |
| | | Canada: VEMP | 70 mg/m ³ ; 20 ppm |

Engineering controls

Provide for good ventilation or exhaust system or work with completely self-contained equipment. Explosion protection required.

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:

Butyl caoutchouc (butyl rubber), 0.7 mm, Breakthrough time: 240 min

Butyl caoutchouc (butyl rubber), 0.35 mm, Breakthrough time: <30 min

Neoprene/nitrile rubber, 0.2 mm, Breakthrough time: <10 min

Latex/nitrile rubber, 0.1 mm, Breakthrough time: <1 min

Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

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.

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:

Avoid contact with skin and eyes. Avoid breathing mist/vapors/spray. Take off contaminated clothing and wash it before reuse. Do not eat, drink or smoke when using this product.

Use only non-sparking tools. Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.

Wash hands before breaks and after work.

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

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| Appearance: | Physical state at 20 °C and 101.3 kPa: liquid Form: Paste Color: Whitish |
| Odor: | Typical, like Methyl methacrylate |
| Odor threshold: | 0.75 ppm |
| pH: | No data available |
| Melting point/freezing point: | No data available |
| Initial boiling point and boiling range: | 50 - 150 °C |
| Flash point/flash point range: | 11.5 °C (T.C.C.) |
| Evaporation rate: | No data available |
| Flammability: | Highly flammable liquid and vapor. |
| Explosion limits: | LEL (Lower Explosion Limit): 1.50 Vol-% UEL (Upper Explosive Limit): 12.50 Vol-% |
| Vapor pressure: | at 20 °C: 3.7 kPa |
| Vapor density: | >= 3 |
| Density: | at 25 °C: 0.95 - 1.1 g/mL |
| Water solubility: | Insoluble |
| Partition coefficient: n-octanol/water: | 0.93 log P(o/w) (Methacrylic acid (CAS 79-41-4)) Based on the n-octanol/water partition coefficient accumulation in organisms is not expected. 1.38 log P(o/w) (Methyl methacrylate (CAS 80-62-6)) Based on the n-octanol/water partition coefficient significant accumulation in organisms is not expected. |
| Auto-ignition temperature: | 421 °C |
| Thermal decomposition: | No data available |
| Additional information: | No data available |

10. Stability and reactivity

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| Reactivity: | Highly flammable liquid and vapor. Concentrated vapors are heavier than air. Methyl methacrylate: Explosive mixtures with air may even form at room temperature. |
| Chemical stability: | Stable under recommended storage conditions. |
| Possibility of hazardous reactions: | Exceeding storage duration or storage temperature can cause polymerization. |
| Conditions to avoid: | Keep away from heat sources, sparks and open flames. Protect from: UV-radiation/sunlight Protect from frost. |
| Incompatible materials: | Oxidizing agents, reducing agent, ammonia, halogens, acids (inorganic) |
| 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.

ATEmix (calculated): > 5,000 mg/kg

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

ATEmix (calculated): > 5,000 mg/kg

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

ATEmix (calculated): > 20 mg/L

Skin corrosion/irritation: Skin Irritation 2 = Causes skin irritation.

Serious eye damage/irritation: Eye Irritation 2A = Causes serious eye irritation.

Sensitisation to the respiratory tract: Lack of data.

Skin sensitisation: Sensitization - skin 1 = May cause an allergic skin reaction.

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): Specific Target Organ Toxicity (Single Exposure) 3 = May cause respiratory irritation.

Specific target organ toxicity (repeated exposure): Lack of data.

Aspiration hazard: Lack of data.

Other information: Information about Methyl methacrylate (CAS 80-62-6):

LD50 Rat, oral: 7,900 mg/kg

LD50 Rabbit, dermal: > 35,000 mg/kg

LC50 Rat, inhalative: 7,093 ppm/3h

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

LD50 Rat, oral: 1,600 mg/kg

LD50 Rabbit, dermal: 500 mg/kg

LC50 Rat, inhalative: 6.7 mg/L

Symptoms

In case of inhalation: Higher doses may lead to a narcotic effect.

In case of ingestion: Irritation of mucuous membranes of digestive system possible.

After contact with skin:

Prolonged or repeated skin contact may cause removal of natural fat from the skin resulting in dermatitis (skin inflammation).

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

12. Ecological information

Ecotoxicity

Aquatic toxicity: Information about Methyl methacrylate (CAS 80-62-6):
Fish toxicity:
LC50 Pimephales promelas (fathead minnow): 1,300 mg/L/96h
Information about Methacrylic acid (CAS 79-41-4):
Fish toxicity:
LC50 Oncorhynchus mykiss: 85 mg/L/96h
NOEC Danio rerio (zebrafish): 10 mg/L/35d
Daphnia toxicity:
LC50 Daphnia magna (Big water flea): > 130 mg/L/48h
NOEC Daphnia magna (Big water flea): 53 mg/L/21d

Mobility in soil

No data available

Persistence and degradability

Further details: Biodegradability:
Information about Methyl methacrylate (CAS 80-62-6):
90-100 %/28d (OECD 301 B), readily biodegradable
80-90 % (OECD 301 D), biodegradable
Information about Methacrylic acid (CAS 79-41-4): 86 % (OECD 301 D), biodegradable

Additional ecological information

Volatile organic compounds (VOC):

< 20 g/L

General information:

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

13. Disposal considerations

Product

Recommendation: 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.
Non-contaminated packages may be recycled.

14. Transport information

UN number

ADR/RID, IMDG, IATA-DGR:

UN 1133

UN proper shipping name

ADR/RID, IMDG, IATA-DGR:

UN 1133, ADHESIVES

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

Canada: Transportation of Dangerous Goods (TDG)

UN Number: UN1133

Shipping name: UN 1133, adhesives

TDG class: 3

Packing group: II

Explosive limit and limited quantity index: 5L

Passenger carrying road or rail index: 5L

Sea transport (IMDG)

UN number: UN 1133

Proper shipping name: UN 1133, ADHESIVES

Class or division, Subsidiary risk: Class 3, Subrisk -

Packing Group: II

EmS: F-E, S-D

Special Provisions: -

Limited quantities: 5 L

Excepted quantities: E2

Package - Instructions: P001

Package - Provisions: PP1

IBC - Instructions: IBC02

IBC - Provisions: -

Tank instructions - IMO: -

Tank instructions - UN: T4

Tank instructions - Provisions: TP1, TP8

Stowage and handling: Category B.

Properties and observations: Adhesives are solutions of gums, resins, etc., usually volatile due to the solvents. Miscibility with water depends upon their composition.

Marine pollutant: no

Segregation group: none

Remarks: For packages < = 30 litres: PG III (IMDG 2.3.2.2)

Air transport (IATA)

UN/ID number: UN 1133
Proper shipping name: UN 1133, ADHESIVES
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): 3L
Remarks: For packages < = 30 litres: PG III (IATA 3.3.3.1)

15. Regulatory information

National regulations - Canada

Methyl methacrylate: DSL: listed
Methacrylic acid: DSL: listed

16. Other information

Text for labeling: Contains 50 - 65 % Methyl methacrylate, < 3 % Methacrylic acid.

Hazard rating systems:



NFPA Hazard Rating:

Health: 2 (Moderate)
Fire: 3 (Serious)
Reactivity: 2 (Moderate)

HMIS Version III Rating:

Health: 2 (Moderate)
Flammability: 3 (Serious)
Physical Hazard: 2 (Moderate)
Personal Protection: X = Consult your supervisor

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

| | |
|-----------------|---|
| HEALTH | 2 |
| FLAMMABILITY | 3 |
| PHYSICAL HAZARD | 2 |
| | X |

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
 AS/NZS: Australian Standards/New Zealand Standards
 ATEMix: Acute Toxicity Estimate of mixture
 BCF: Bioconcentration Factor
 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 Damage: Eye damage
 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
 MFSU: Manufacture, formulation, supply and use
 NOEC: No Observed Effect Concentration
 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
 Sensitization - skin: Skin sensitisation
 Skin Corrosion: Skin corrosion
 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
 UV: Ultraviolet
 vPvB: Very persistent and very bioaccumulative
 WEL: Workplace Exposure Limit
 WHMIS: Workplace Hazardous Materials Information System

Reason of change:

Changes in section 2: Labeling
 Changes in section 3: Composition/information on ingredients
 Changes in section 8: DNEL and PNEC values
 Changes in section 11: Toxicological information
 Changes in section 12: Ecological information
 General revision

Date of first version:

18/9/2015

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.