

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

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

General use: Adhesive, for orthopedic procedures

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: Physical state at 68 °F and 101.3 kPa: liquid

Form: Paste

Color: Whitish

Odor: Typical, like Methyl methacrylate

Classification: Flammable Liquid - Category 2. Skin Irritation - Category 2. Eye Irritation -

Category 2A. Sensitization - skin - Category 1.

Specific Target Organ Toxicity (Single Exposure) - Category 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 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

Chemical characterization: Elastomer (polymer) in a flammable liquid

Relevant ingredients:

CAS No.	Designation	Concentration	Classification
CAS 80-62-6	Methyl methacrylate	50 - 65 %	Flammable Liquid - Category 2. Skin Irritation - Category 2. Sensitization - skin - Category 1. Specific Target Organ Toxicity (Single Exposure) - Category 3.
CAS 79-41-4	Methacrylic acid	< 3 %	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. 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/effects, 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:

52.7 °F (T.C.C.)

Auto-ignition temperature:

789.8 °F

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. 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.

Protective equipment and precautions for firefighters:

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

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 vapor 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

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: < 77 °F
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	USA: ACGIH: STEL	410 mg/m ³ ; 100 ppm
		USA: ACGIH: TWA	205 mg/m ³ ; 50 ppm
		USA: IDLH: TWA	1,000 ppm
		USA: NIOSH: TWA	410 mg/m ³ ; 100 ppm
		USA: OSHA: TWA	410 mg/m ³ ; 100 ppm
79-41-4	Methacrylic acid	USA: ACGIH: TWA	70 mg/m ³ ; 20 ppm
		USA: NIOSH: TWA	70 mg/m ³ ; 20 ppm (may be absorbed through the skin)

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

Appearance:	Physical state at 68 °F 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:	122 - 302 °F
Flash point/flash point range:	52.7 °F (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 68 °F: 3.7 kPa
Vapor density:	>= 3
Density:	at 77 °F: 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:	789.8 °F
Thermal decomposition:	No data available
Additional information:	No data available

10. Stability and reactivity

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 - 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: Sensitization - skin - Category 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) - Category 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
For carcinogenic effects:
IARC Rating: Group 3
OSHA Carcinogen: not listed
NTP Rating: not listed

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

USA: Department of Transportation (DOT)

Identification number: UN1133
Proper shipping name: UN 1133, ADHESIVES
Hazard class or Division: 3
Packing Group: II
Labels: 3
Special Provisions: 149, B52, IB2, T4, TP1, TP8
Packaging – Exceptions: 150
Packaging – Non-bulk: 173
Packaging – Bulk: 242
Quantity limitations – Passenger aircraft / rail: 5 L
Quantity limitations – Cargo only: 60 L
Vessel stowage – Location: B
Vessel stowage – Other:



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 - U.S. Federal Regulations

Methyl methacrylate:	<p>TSCA Inventory: listed</p> <p>Carcinogen Status:</p> <p>IARC Rating: Group 3</p> <p>OSHA Carcinogen: not listed</p> <p>NTP Rating: not listed</p> <p>Clean Air Act:</p> <p>CAA Hazardous Air Pollutants: yes</p> <p>CAA SOCM I Chemical: yes</p> <p>Clean Water Act:</p> <p>CWA Hazardous Substances: RQ 1000 lbs.</p> <p>Other Environmental Laws:</p> <p>CERCLA: RQ 1000 lbs.</p> <p>RCRA Hazardous Wastes: Code U162</p> <p>RCRA Groundwater Monitoring: Methods 8015, 8240 / PQL 2, 5</p> <p>SARA Title III - Section 313, Toxic Release: Conc. 1.0% / Threshold Standard</p> <p>NIOSH Recommendations:</p> <p>Occupational Health Guideline: 0426</p>
Methacrylic acid:	<p>TSCA Inventory: listed</p> <p>Clean Air Act:</p> <p>CAA SOCM I Chemical: yes</p> <p>NIOSH Recommendations:</p> <p>Occupational Health Guideline: 0386*</p>

National regulations - U.S. State Regulations

Methyl methacrylate: Delaware Air Quality Management List:
DRQ: 1000 - RQ State: Federal Regulations Apply
Idaho Air Pollutant List:
Title 585; AAC: 20,5 - EL: 27,3 - OEL: 410 - Title 586: -
Massachusetts Haz. Substance Codes: 2,4,5,6 F8 F9
Main: HAP - 2000
Minnesota Haz. Substance:
Codes: AO - Ratings: 3.79 - Status: Air Pollutant. Title III. TRI.
New Jersey RTK Hazardous Substance:
DOT: 1247 - Sub No.: 1277
New York List of Hazardous Substances:
RQ-Air: 1000 - RQ-Land: 1
No Note Associated with this chemical
Pennsylvania Haz. Substance Code: E
Washington Air Contaminant: TWA: 100 ppm = 410 mg

Methacrylic acid: Idaho Air Pollutant List:
Title 585 -- AAC: 3.5 -- EL: 4.67 -- WEL: 70 - Title 586 -
Massachusetts Haz. Substance codes: 4,5,6
Minnesota Haz. Substance: Codes: A -- Ratings: -
Pennsylvania Haz. Substance code: -
Washington Air Contaminant:
TWA: 20 ppm - 70 mg
Skin: Protective measures should be taken to prevent or reduce skin absorption.

16. Other information

Text for labeling:

Hazard rating systems:



Contains 50 - 65 % Methyl methacrylate, < 3 % Methacrylic acid.

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

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 121: Ecological information
 General revision

Date of first version: 9/18/2015

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.