

1 Identification

Product identifier

Trade name: 634A28 - Thinner

Recommended use and restrictions on use

General use: casting resin for orthopedic procedures.
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

Email: 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 telephone number

COLLECT, Telephone: (613) 996-6666

Transport:

CONSULTANK Lutz Harder GmbH (Contract QUALI003)

Telephone: +49 (0)178-4337434 (from USA: 01149 178 4337434)

2 Hazard identification

Classification

Flammable Liquid 2

Highly flammable liquid and vapour.

Skin Irritation 2

Causes skin irritation.

Sensitization - skin 1

May cause an allergic skin reaction.

Specific Target Organ Toxicity (Single Exposure) 3

May cause respiratory irritation.

Information elements

Symbols:



Signal word:

Danger

Hazard statements:

- Highly flammable liquid and vapour.
- Causes skin irritation.
- May cause an allergic skin reaction.
- May cause respiratory irritation.

Precautionary statements:

- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Avoid breathing mist/vapours/spray.
- Wash hands and face thoroughly after handling.
- Wear protective gloves/protective clothing/eye protection.
- Call a POISON CENTER/doctor if you feel unwell.
- Store in a well-ventilated place. Keep cool.

Other hazards known to the supplier with respect to the product

High concentrations of vapour or inhalation for an extended period may lead to paralysis of the central nervous system. Pulmonary edema is possible.
Polymerization with heat evolution may occur in the presence of radical forming substances (e.g. peroxides), reducing substances, and/or heavy metal ions.

3 Composition/Information on ingredients

Material/substance

Chemical name: Methyl methacrylate
C5 H8 O2

CAS-Number: 80-62-6

4 First-aid measures

Description of necessary first-aid measures

General information: If medical advice is needed, have product container or label at hand. First aider: Pay attention to self-protection!
Take off immediately all contaminated clothing and wash it before reuse.

In case of inhalation: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Seek medical attention if problems persist.

In case of 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.

In case of skin contact: Immediately clean with water and soap followed by thorough rinsing. In case of skin reactions, consult a physician.

In case of 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.

Most important symptoms and effects, whether acute or delayed

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

Indication of immediate medical attention and special treatment needed, if necessary

Treat symptomatically.

5 Fire-fighting measures

Suitable and unsuitable extinguishing media

Suitable extinguishing media:

Foam, extinguishing powder, carbon dioxide.

Unsuitable extinguishing media:

Full water jet

Specific hazards arising from the product

Highly flammable liquid and vapour.

Air combined with vapours may form potentially explosive mixtures that are heavier than air. vapours may proceed on the ground over great distances and cause fire and backflashes.

In case of fire may be liberated: 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. Keep containers cool with water spray.

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, protective equipment and emergency procedures

Avoid breathing mist/vapours/spray. Avoid contact with the substance. Eliminate all ignition sources if safe to do so. If possible, eliminate leakage. Provide adequate ventilation.

Wear appropriate protective equipment. Keep unprotected people away.

Cordon off downwind area at risk and warn inhabitants.

Take off immediately all contaminated clothing and wash it before reuse.

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 and material for containment and cleaning 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.

7 Handling and storage

Precautions for safe handling

Advices on safe handling: Provide adequate ventilation, and local exhaust as needed. Avoid breathing mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Wear appropriate protective equipment.
Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Take off immediately all contaminated clothing and wash it before reuse. Guarantee sufficient ventilation during and after use, in order to prevent vapour accumulation.
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 discharge.
Use only explosion-protected equipment/instruments. Do not weld.
In partially filled containers explosive mixtures may form.

Conditions for safe storage, including any incompatibilities

Requirements for storerooms and containers:

Keep only in the original container at temperature not exceeding 30 °C.
Protect from light.
Because oxygen (air) is necessary to stabilize product, fill container only to 90% of capacity.
Provide adequate oxygen (air) circulation for large containers to ensure product stability.

Hints on joint storage:

Do not store together with organic peroxides, ammonia or persulphates.
Do not store together with: Oxidizing agents, reducing agents, mineral acids and heavy metals.
Keep away from food, drink and animal feedingstuffs.

8 Exposure controls/Personal protection

Control parameters

Occupational exposure limit values:

Type	Limit value
Canada: Alberta, OEL 15 min	410 mg/m ³ ; 100 ppm
Canada: Alberta, OEL 8 hour	205 mg/m ³ ; 50 ppm
Canada: BC, OEL STEL	100 ppm
Canada: BC, OEL TWA	50 ppm
Canada: Québec, VECD	100 ppm
Canada: Québec, VEMP	50 ppm

Appropriate engineering controls

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

Individual protection measures, such as personal protective equipment

Respiratory protection:	Respiratory protection must be worn whenever the TLV (WEL) levels have been exceeded. Respiratory protection in case of aerosol or vapour formation: filter A The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.
Hand protection:	Protective gloves according to OSHA Standard - 29 CFR: 1910.138. Glove material: butyl caoutchouc (butyl rubber)-Layer thickness: 0.3 mm Breakthrough time: 60 min Observe glove manufacturer's instructions concerning penetrability and breakthrough time.
Eye protection:	Tightly sealed goggles according to OSHA Standard - 29 CFR: 1910.133 or ANSI Z87.1-2010.
Body protection:	Flame retardant, antistatic and chemical resistant protective clothing.
General hygiene considerations:	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid breathing mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Take off immediately all contaminated clothing and wash it before reuse. Contaminated work clothing should not be allowed out of the workplace. When using do not eat or drink. Wash hands thoroughly after handling. 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

Physical state at 20 °C and 101.3 kPa	liquid
Colour:	colourless
Odour:	Ester-like
Odour threshold:	0.05 - 0.34 ppm
Melting point and freezing point:	-48 °C
Boiling point or initial boiling point and boiling range:	100.3 °C (1013 hPa)
Flammability:	Highly flammable liquid and vapour.
Lower and upper explosion limit or lower and upper flammability limit:	LEL (Lower Explosion Limit) at 10 °C: 2.10 Vol-% UEL (Upper Explosive Limit): 12.50 Vol-%
Flash point/flash point range:	10 °C (DIN 51755)
Evaporation rate:	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
pH:	Not applicable
Dynamic viscosity:	at 20 °C: 0.6 mPa*s (Brookfield)
Solubility:	Miscible with organic solvents
Water solubility:	at 20 °C: 15.3 g/L

Partition coefficient — n-octanol/water:	1.38 log P(o/w) Based on the n-octanol/water partition coefficient significant accumulation in organisms is not expected.
Vapour pressure:	at 20 °C: 37 hPa
Density and/or relative density	at 20 °C: 0.94 g/mL
Vapour density:	at 20 °C: approx. 3.5
Particle characteristics:	Not applicable

Additional information

Ignition temperature:	430 °C (DIN 51794)
-----------------------	--------------------

10 Stability and reactivity

Reactivity:	Highly flammable liquid and vapour. vapours may form explosive mixtures with air.
Chemical stability:	Product is normally delivered in a stable state. However, if shelf life and/or recommended storage temperature are exceeded to a large degree, product may polymerize and generate heat.
Possibility of hazardous reactions:	Due to reducing substances, peroxides and heavy metal ions, polymerization with heat generation may occur. Heating will lead to pressure increase: danger of bursting and explosion.
Conditions to avoid:	Keep at temperature not exceeding 30 °C. Keep away from heat sources, sparks and open flames. Protect from direct sunlight.
Incompatible materials:	Watch for exothermic reactions with peroxides. Sulphur compounds, peroxides, amines, heavy metal compounds, alkali compounds, reducing agent, oxidizing agents, mineral acids
Hazardous decomposition products:	No hazardous decomposition products when regulations for storage and handling are observed.

11 Toxicological information

Information on the likely routes of exposure

No data available

Health hazard information

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 2 = Causes skin irritation.

Serious eye damage/irritation: Based on available data, the classification criteria are not met.

Specific symptoms in animal studies (Rabbit): Not an irritant

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

Specific symptoms in animal studies, Rabbit, Rat, Mouse, Dog: not carcinogenic.

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

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

Acute toxicity:

LD50 Rat, oral: > 5,000 mg/kg (OECD 401)

LC50 Rat, inhalative: 29.8 mg/L/4h

LD50 Rabbit, dermal: > 5,000 mg/kg

12 Ecological information

Ecotoxicity

Aquatic toxicity:

Fish toxicity:

LC50, *Oncorhynchus mykiss*: > 79 mg/L/96h (OECD 203)

NOEC, *Danio rerio* (zebrafish): 9.4 mg/L/32d (OECD 210)

Daphnia toxicity:

EC50, *Daphnia magna* (Big water flea): 69 mg/L/48h (OECD TG 202)

NOEC, *Daphnia magna* (Big water flea): 37 mg/L/21d (OECD TG 202)

Algae toxicity:

EC50, *Selenastrum capricornutum* (green algae): > 100 mg/L/72h (OECD 201)

Bacterial toxicity:

EC3, *Pseudomonas putida*: 100 mg/L/16h

Further details:

Appreciable bio-accumulation is not to be expected (log P(o/w 1-3).

Persistence and degradability

Analytical method:

OECD 301 C, 14 d

Degree of elimination:

94%

Further details:

Product is readily biodegradable.

Bioaccumulative potential

Partition coefficient — n-octanol/water:

1.38 log P(o/w)

Based on the n-octanol/water partition coefficient significant accumulation in organisms is not expected.

Mobility in soil

No data available

Other adverse effects

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

13 Disposal considerations

Waste treatment methods

Product

Recommendation: Special waste.
Incinerate 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

TDG: UN1247
IMDG, IATA-DGR: UN 1247

UN proper shipping name

TDG, IMDG, IATA-DGR: UN 1247, METHYL METHACRYLATE MONOMER, STABILIZED

Transport hazard class

TDG: 3
IMDG: Class 3, Subrisk -
IATA-DGR: Class 3

Packing group

TDG, IMDG, IATA-DGR: II

Environmental hazards

Marine pollutant: no



Special precautions in connection with transport or conveyance either within or outside the premises

Canada: Transportation of Dangerous Goods (TDG)

Special Provisions: 155
Explosive limit and limited quantity index: 1L
Passenger carrying road or rail index: 5L

Sea transport (IMDG)

EmS: F-E, S-D
Special Provisions: 386
Limited quantities: 1 L
Excepted quantities: E2
Package - Instructions: P001
Package - Provisions: -
IBC - Instructions: IBC02
IBC - Provisions: -
Tank instructions - IMO: -
Tank instructions - UN: T4
Tank instructions - Provisions: TP1
Stowage and handling: Category C. SW1 SW2
Properties and observations: Colourless, volatile liquid. Flashpoint: 8°C c.c. Explosive limits: 1.5% to 11.6%. Immiscible with water, Irritating to skin, eyes and mucous membranes.
Marine pollutant: no
Segregation group: none

Air transport (IATA)

Proper shipping name: UN 1247, METHYL METHACRYLATE MONOMER, STABILIZED
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: A209
Emergency Response Guide-Code (ERG): 3L

15 Regulatory information

National regulations - Canada

DSL: listed
Priority Substances List: listed (PSL 1)

Further regulations, limitations and legal requirements

No data available

16 Other information

Revision date: 17/12/2025
Date of first version: 27/10/1994
Reason of change: General revision: Safety Data Sheet according to Hazardous Products Regulations (HPR) 2022

Abbreviations and acronyms:

AS/NZS: Australian Standards/New Zealand Standards
CAS: Chemical Abstracts Service
CFR: Code of Federal Regulations
CLP: Classification, Labelling and Packaging
DMEL: Derived minimal effect level
DNEL: Derived no-effect level
DSL: Domestic Substances List
EC: European Community
EC50: Effective Concentration 50%
EmS: Emergency Response Procedures for Ships Carrying Dangerous Goods
EN: European Standard
EQ: Excepted quantities
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
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
PSL: Priority Substances List
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
Sensitization - skin: Skin sensitisation
Skin Irritation: Skin irritation
STOT SE: Specific target organ toxicity - single exposure
TDG: Transportation of Dangerous Goods Regulation in Canada
TLV: Threshold Limit Value
TRGS: Technical Rules for Hazardous Substances
UN: United Nations
vPvB: Very persistent and very bioaccumulative
WEL: Workplace Exposure Limit

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.