

## 617H19S - Orthocryl Lamination Resin 80:20 Speed

Material number 617H19S

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### 1 Identification

#### Product identifier

Trade name: 617H19S - Orthocryl Lamination Resin 80:20 Speed

#### Recommended use and restrictions on use

General use: Lamination 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**

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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.  
Wear protective gloves/protective clothing/eye protection.  
  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/or shower.  
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**

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.  
Due to reducing substances, peroxides and heavy metal ions, polymerization with heat generation may occur.  
Potentially explosive mixtures may form if adequate ventilation is not provided.  
Higher doses may have a narcotic effect.

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## 3 Composition/Information on ingredients

### Mixture

Hazardous ingredients:

CAS No.	Designation	Content	Classification
CAS 80-62-6	Methyl methacrylate	50 - 100 %	Flammable Liquid 2. Skin Irritation 2. Sensitization - skin 1. Specific Target Organ Toxicity (Single Exposure) 3.
CAS 109-16-0	2,2'-Ethylenedioxydiethyl dimethacrylate	1 - 5 %	Sensitization - skin 1.
CAS 38668-48-3	1,1'-(p-Tolylimino) dipropan-2-ol	< 1 %	Acute Toxicity 2 (oral). Eye Irritation 2A. Aquatic toxicity - acute 3. Aquatic toxicity - chronic 3.
CAS 123-81-9	Ethylene di(S-thioacetate)	< 1 %	Acute Toxicity 3 (oral). Acute Toxicity 4 (dermal). Acute Toxicity 4 (inhalative). Eye Irritation 2. Sensitization - skin 1. Specific Target Organ Toxicity (Single Exposure) 3. Aquatic toxicity - acute 1.
CAS 141-32-2	n-Butyl acrylate	< 1 %	Flammable Liquid 3. Acute Toxicity 4 (inhalative). Skin Irritation 2. Eye Irritation 2A. Sensitization - skin 1. Specific Target Organ Toxicity (Single Exposure) 3. Aquatic toxicity - chronic 3.

The actual concentration or concentration range is withheld as a trade secret.

## 4 First-aid measures

### Description of necessary first-aid measures

General information:	Take off contaminated clothing and wash it before reuse.
In case of inhalation:	Move victim to fresh air, put at rest and loosen restrictive clothing. If breathing becomes irregular or ceases, apply rescue breathing or artificial respiration immediately, where required supply oxygen. Seek medical attention.
In case of swallowing:	Never give anything by mouth to an unconscious person. Do not induce vomiting. Immediately get medical attention.
In case of skin contact:	After contact with skin, wash immediately with soap and plenty of water. 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

May cause respiratory irritation. Causes skin irritation.  
May cause an allergic skin reaction.  
Headache, drowsiness

### 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. Concentrated vapours are heavier than air. 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: Organic crack products, 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, protective equipment and emergency procedures

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

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

Wear appropriate protective equipment. Keep unprotected people away.

Take off contaminated clothing and wash it before reuse. Cordon off downwind area at risk and warn inhabitants.

Take off 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.

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### 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 contaminated clothing and wash it before reuse.  
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.

### Conditions for safe storage, including any incompatibilities

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.  
Storage temperature < 30 °C

Hints on joint storage: Do not store together with organic peroxides, ammonia or persulphates.

keep away from: reducing agent, amines, heavy metals, oxidizing agents, alkalis

Further details: Due to reducing substances, peroxides and heavy metal ions, polymerization with heat generation may occur.

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### 8 Exposure controls/Personal protection

#### Control parameters

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value
80-62-6	Methyl methacrylate	Canada: Alberta, OEL 15 min	410 mg/m <sup>3</sup> ; 100 ppm
		Canada: Alberta, OEL 8 hour	205 mg/m <sup>3</sup> ; 50 ppm
		Canada: BC, OEL STEL	100 ppm
		Canada: BC, OEL TWA	50 ppm
		Canada: Québec, VECD	100 ppm
		Canada: Québec, VEMP	50 ppm
141-32-2	n-Butyl acrylate	Canada: Alberta, OEL 8 hour	10 mg/m <sup>3</sup> ; 2 ppm
		Canada: BC, OEL TWA	2 ppm
		Canada: Québec, VEMP	2 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. Use filter type A (= against vapours of organic substances) according to OSHA Standard - 29 CFR: 1910.134 or ANSI Z88.2.

**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:**

Use only non-sparking tools. Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.  
Avoid breathing mist/vapours/spray. Avoid contact with skin and eyes.  
Take off contaminated clothing and wash it before reuse.  
Contaminated work clothing should not be allowed out of the workplace.  
When using do not eat, drink or smoke.  
Wash hands thoroughly after handling.  
When handling large quantities, supply emergency spray.

#### Environmental exposure controls

Refer to 6.: Section "Environmental precautions".

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### 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:	No data available
Melting point and freezing point:	No data available
Boiling point or initial boiling point and boiling range:	100 °C (MMA)
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-% (MMA) UEL (Upper Explosive Limit): 12.50 Vol-% (MMA)
Flash point/flash point range:	10 °C (MMA)
Evaporation rate:	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
pH:	No data available
Solubility:	No data available
Partition coefficient — n-octanol/water:	No data available
Vapour pressure:	No data available
Density and/or relative density	No data available
Vapour density:	No data available
Particle characteristics:	Not applicable

#### Additional information

Explosive properties:	vapours may form explosive mixtures with air.
Additional information:	Self-accelerating polymerisation temperature (SAPT), relating to the transport duration: > 50 °C

### 10 Stability and reactivity

Reactivity:	Highly flammable liquid and vapour. Concentrated vapours 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:	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. 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 away from heat sources, sparks and open flames. Protect from direct sunlight. Protect from: UV-radiation/sunlight

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Incompatible materials: Keep away from: sulphur compounds, reducing agent, amines, heavy metals, peroxides, oxidizing agents, alkalis.

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.

ATEmix: 7,000 - 8,000 mg/kg

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: Lack of data.

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.

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.



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## Other information:

## Information about Methyl methacrylate:

LD50 Rat, oral: &gt; 5,000 mg/kg (OECD 401)

LD50 Rabbit, dermal: &gt; 5,000 mg/kg

LC50 Rat, inhalative: 7,093 ppm/4h = 29.8 mg/L/4h

## Information about 2,2'-Ethylenedioxydiethyl dimethacrylate:

LD50, Rat, oral: &gt; 5,000 mg/kg

LD50, Mouse, dermal: &gt; 2,000 mg/kg

## Information about 1,1'-(p-Tolylimino)dipropen-2-ol:

LD50, Rat, oral: &gt; 25 mg/kg

LD50, Rat, dermal: &gt; 2,000 mg/kg

## Information about Ethylene di(S-thioacetate):

LD50, Rat, oral: 303 mg/kg

LD50, Rat, dermal: &gt; 2,000 mg/kg

ATE inhalative (dust/mist): 1.5 mg/L/4h

ATE inhalative (vapour): 11 mg/L/4h

## Information about n-Butyl acrylate:

LD50, Rat, oral: &gt; 3,150 mg/kg

LD50, Rabbit, dermal: &gt; 2,000 mg/kg

LC50, Rat, inhalative: 10.3 mg/L/4h

## For carcinogenic effects:

## Information about Methyl methacrylate:

IARC Rating: Group 3

OSHA Carcinogen: not listed

NTP Rating: not listed

## Information about n-Butyl acrylate:

IARC Rating: Group 3

OSHA Carcinogen: not listed

NTP Rating: not listed

**Symptoms**

Headache, drowsiness

After eye contact: May cause irritations.

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### 12 Ecological information

#### Ecotoxicity

Aquatic toxicity:

Information about Methyl methacrylate:

Fish toxicity:

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

NOEC Danio rerio (zebrafish): 9.4 mg/L/35d (OECD 210)

LC50 Danio rerio (zebrafish): 33.7 mg/L/35d (OECD 210)

Daphnia toxicity:

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

NOEC Daphnia magna (Big water flea): 48 mg/L/48h

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

EC50 Daphnia magna (Big water flea): 49 mg/L/21d (OECD 211)

Algae toxicity:

EC50 Selenastrum capricornutum (green algae): >110 mg/L/72h (OECD 201)

NOEC Selenastrum capricornutum (green algae): >110 mg/L/72h (OECD 201)

Information about 2,2'-Ethylenedioxydiethyl dimethacrylate:

Fish toxicity:

LC50 Danio rerio (zebrafish): 16.4 mg/L/96h (OECD 203)

Daphnia toxicity:

NOEC Daphnia magna (Big water flea): 32 mg/L/21d (OECD 211)

EC50 Daphnia magna (Big water flea): 51.9 mg/L/21d

Algae toxicity:

EC50 Pseudokirchneriella subcapitata (green algae): > 100 mg/L/72h (OECD 201)

Algae toxicity:

NOEC Pseudokirchneriella subcapitata (green algae): 18.6 mg/L/72h (OECD 201)

Information about 1,1'-(p-Tolylimino)dipropyl-2-ol:

Fish toxicity:

LC50 Danio rerio (zebrafish): 17 mg/L/96h

Daphnia toxicity:

EC50 Daphnia magna (Big water flea): 28.8 mg/L/48h (OECD 202)

Algae toxicity:

EC50 Desmodesmus subspicatus (green algae): 245 mg/L/72h (OECD 201)

Toxicity to microorganisms:

EC10: > 1.995 mg/L/30 min (OECD 209)

Information about Ethylene di(S-thioacetate):

Fish toxicity:

LC50 Leuciscus idus: 4.85 mg/L/48h

Daphnia toxicity:

EC50 Daphnia magna (Big water flea): 11 mg/L/48h

Algae toxicity:

EC50 Desmodesmus subspicatus (green algae): >100 mg/L/72h (OECD 201)

NOEC Desmodesmus subspicatus (green algae): >= 100 mg/L/72h (OECD 201)

Information about n-Butyl acrylate:

Fish toxicity:

LC50 Oncorhynchus mykiss: > 5.2 mg/L/96h (OECD 203)

NOEC Oncorhynchus mykiss: 3.8 mg/L/96h

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### Daphnia toxicity:

EC50 Daphnia magna (Big water flea): 8.2 mg/L/48h (OECD 202)

NOEC Daphnia magna (Big water flea): 2.4 mg/L/48h

NOEC Daphnia magna (Big water flea): 0.136 mg/L/21d (OECD 211)

LOEC Daphnia magna (Big water flea): 0.457 mg/L/21d (OECD 211)

### Algae toxicity:

EC50 Selenastrum capricornutum (green algae): 2.65 mg/L/96h (OECD 201)

### Toxicity to microorganisms:

EC0 activated sludge: > 150 mg/L/3d

## Persistence and degradability

Further details: Easily bio-degradable

## Bioaccumulative potential

Partition coefficient — n-octanol/water:

No data available

## Mobility in soil

No data available

## Other adverse effects

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

In case of spills of large quantities: Danger to drinking water.

## 13 Disposal considerations

### Waste treatment methods

#### Product

Recommendation: Incinerate as hazardous waste according to applicable local, state, and federal regulations.

#### Package

Recommendation: Handle empty containers with care. Incineration may cause explosion. Dispose of waste according to applicable legislation.

## 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 mixture

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### 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 mixture  
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

### Further information

Self-accelerating polymerisation temperature (SAPT), relating to the transport duration: > 50 °C

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### 15 Regulatory information

#### National regulations - Canada

Product: DSL: All ingredients are listed or exempt from listing.  
Methyl methacrylate: DSL: listed  
Priority Substances List: listed (PSL 1)  
2,2'-Ethylenedioxydiethyl dimethacrylate: DSL: listed  
1,1'-(p-Tolylimino)dipropen-2-ol: DSL: listed  
Ethylene di(S-thioacetate): DSL: listed  
n-Butyl acrylate: DSL: listed

#### Further regulations, limitations and legal requirements

No data available

### 16 Other information

Text for labelling: Contains:  
methyl methacrylate  
2,2'-Ethylenedioxydiethyl dimethacrylate  
Ethylene di(S-thioacetate)  
n-Butyl acrylate  
Revision date: 17/12/2025  
Date of first version: 7/4/2016  
Reason of change: General revision: Safety Data Sheet according to Hazardous Products Regulations (HPR) 2022

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### Abbreviations and acronyms:

Acute Toxicity: Acute toxicity  
Aquatic toxicity - acute: Hazardous to the aquatic environment - acute  
Aquatic toxicity - chronic: Hazardous to the aquatic environment - chronic  
AS/NZS: Australian Standards/New Zealand Standards  
ATE: Acute toxicity estimate  
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  
DSL: Domestic Substances List  
EC: Effective Concentration  
EC: European Community  
EC50: Effective Concentration 50%  
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  
LC50: Median lethal concentration  
LD50: Lethal dose 50%  
LEL: Lower Explosion Limit  
MARPOL: Maritime Pollution: The International Convention for the Prevention of Pollution from Ships  
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  
PSL: Priority Substances List  
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  
UV: Ultraviolet  
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.