

Safety Data Sheet
according to HPR, Schedule 1

Printing date 10/12/2017

Version number 10

Reviewed on 09/21/2017

1 Identification

- **Product identifier**
- **Trade name:** ***SR Link***
- **Application of the substance / the mixture** *Bonding agent*
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Ivoclar Vivadent Inc.
175 Pineview Drive, Amherst, N.Y. 14228
USA
Tel. +1 800 533 6825
Fax +1 716 691 2285

- Ivoclar Vivadent Inc.
1-6600 Dixie Road
Mississauga, Ontario
L5T 2Y2
Canada
Phone: +1 905 670 8499
Fax: +1 905 670 3102
- **Information department:** *Quality Assurance / Regulatory Affairs*
- **Emergency telephone number:**
24 Hour Emergency Assistance:
Emergency-Call USA - Infotrac: 1-800-535-5053
Emergency-Call Canada - Canutec: 1-613-996-6666

- General SDS Assistance:
US: 1-800-533-6825
Canada: 1-800-263-8182

2 Hazard identification

- **Classification of the substance or mixture**

<i>Flammable Liquids - Category 2</i>	<i>H225 Highly flammable liquid and vapour.</i>
<i>Acute Toxicity (Inhalation) - Category 4</i>	<i>H332 Harmful if inhaled.</i>
<i>Eye Irritation - Category 2A</i>	<i>H319 Causes serious eye irritation.</i>
<i>Skin Sensitizer - Category 1</i>	<i>H317 May cause an allergic skin reaction.</i>
<i>Carcinogenicity – Category 2</i>	<i>H351 Suspected of causing cancer.</i>
<i>Specific Target Organ Toxicity - Single Exposure - Category 3</i>	<i>H335 May cause respiratory irritation.</i>

- **Label elements**
- **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS02 GHS07 GHS08

- **Signal word** *Danger*
- **Hazard-determining components of labeling:**
2-methylpropan-2-ol

(Contd. on page 2)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 10/12/2017

Version number 10

Reviewed on 09/21/2017

Trade name: SR Link

(Contd. of page 1)

4-methylpentan-2-one
methacrylated phosphoric acid ester
urethane dimethacrylate

· **Hazard statements**

Highly flammable liquid and vapour.
Harmful if inhaled.
Causes serious eye irritation.
May cause an allergic skin reaction.
Suspected of causing cancer.
May cause respiratory irritation.

· **Precautionary statements**

Obtain special instructions before use.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Wear protective gloves/protective clothing/eye protection/face protection.
Use explosion-proof [electrical/ventilating/lighting] equipment.
Ground and bond container and receiving equipment.
Use non-sparking tools.
Take actions to prevent static discharges.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.
Do not handle until all safety precautions have been read and understood.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Specific treatment (see on this label).
Call a POISON CENTER/doctor if you feel unwell.
IF exposed or concerned: Get medical advice/attention.
If skin irritation or rash occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
In case of fire: Use for extinction: CO₂, powder or water spray.
Take off contaminated clothing and wash it before reuse.
Store locked up.
Store in a well-ventilated place. Keep container tightly closed.
Store in a well-ventilated place. Keep cool.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 1
Fire = 3
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = 1
Fire = 3
Reactivity = 0

CA

(Contd. on page 3)

Safety Data Sheet according to HPR, Schedule 1

Printing date 10/12/2017

Version number 10

Reviewed on 09/21/2017

Trade name: **SR Link**

(Contd. of page 2)

3 Composition/Information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

- **Dangerous components:**

CAS: 75-65-0	2-methylpropan-2-ol	40-70% w/w
CAS: 108-10-1	4-methylpentan-2-one	20-<25% w/w
CAS: 85590-00-7	methacrylated phosphoric acid ester	3-5% w/w
CAS: 72869-86-4	urethane dimethacrylate	3-5% w/w

4 First aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:**
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; immediately call for medical help.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.
- **Additional information** Cool endangered receptacles with water spray.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.

(Contd. on page 4)

CA

Safety Data Sheet

according to HPR, Schedule 1

Printing date 10/12/2017

Version number 10

Reviewed on 09/21/2017

Trade name: **SR Link**

(Contd. of page 3)

See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Only adequately trained personnel should handle this product.
For use in dentistry only.
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Store in a cool location.
Store only in the original receptacle.
- **Information about storage in one common storage facility:**
Store away from oxidizing agents.
Store away from reducing agents.
- **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.
- **Specific end use(s)** No further relevant information available.

* 8 Exposure controls/ Personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

CAS: 75-65-0 2-methylpropan-2-ol

EL Long-term value: 100 ppm

EV Short-term value: 150 ppm

Long-term value: 100 ppm

CAS: 108-10-1 4-methylpentan-2-one

EL Short-term value: 75 ppm

Long-term value: 20 ppm

IARC 2B

EV Short-term value: 75 ppm

Long-term value: 205 mg/m³, 50 ppm

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Usual hygienic measures for dental practice and dental laboratories.
Remove contaminated clothing and wash before reuse.
Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.

(Contd. on page 5)

CA

Safety Data Sheet

according to HPR, Schedule 1

Printing date 10/12/2017

Version number 10

Reviewed on 09/21/2017

Trade name: **SR Link**

(Contd. of page 4)

Avoid contact with the eyes and skin.

· **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· **Recommended filter device for short term use:**

Filter A1

Filter A2

Filter A3

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

After use of gloves apply skin-cleaning agents and skin cosmetics.

· **Material of gloves**

Butyl rubber, BR

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Not suitable are gloves made of the following materials:**

Commercial medical gloves do not provide protection against the sensitizing effect of methacrylates.

· **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:	Fluid
Color:	According to product specification
Odor:	Camphor-like
Odor threshold:	Not determined.

· **pH-value:** Not applicable.

· **Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	83 °C

· **Flash point:** 11 °C

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** 460 °C

(Contd. on page 6)

CA

Safety Data Sheet according to HPR, Schedule 1

Printing date 10/12/2017

Version number 10

Reviewed on 09/21/2017

Trade name: **SR Link**

(Contd. of page 5)

· Auto igniting:	<i>Product is not selfigniting.</i>
· Danger of explosion:	<i>Product is not explosive. However, formation of explosive air/vapor mixtures are possible.</i>
· Explosion limits:	
Lower:	<i>1.7 Vol %</i>
Upper:	<i>9.0 Vol %</i>
· Vapor pressure at 20 °C:	<i>40 hPa</i>
· Density:	<i>Not determined.</i>
· Relative density	<i>Not determined.</i>
· Vapor density	<i>Not determined.</i>
· Evaporation rate	<i>Not determined.</i>
· Solubility in / Miscibility with	
Water:	<i>Partly soluble.</i>
· Partition coefficient (n-octanol/water):	<i>Not determined.</i>
· Viscosity:	
Dynamic:	<i>Not determined.</i>
Kinematic:	<i>Not determined.</i>
· Other information	<i>No further relevant information available.</i>

10 Stability and reactivity

- **Reactivity** *No further relevant information available.*
- **Chemical stability** *Stable under normal handling and storage conditions.*
- **Thermal decomposition / conditions to be avoided:** *No decomposition if used according to specifications.*
- **Possibility of hazardous reactions**
Reacts with strong oxidizing agents.
Reacts with reducing agents.
- **Conditions to avoid** *No further relevant information available.*
- **Incompatible materials:** *No further relevant information available.*
- **Hazardous decomposition products:** *None under normal conditions of storage and use.*

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

CAS: 75-65-0 2-methylpropan-2-ol

Oral	LD50	3500 mg/kg (rat)
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CAS: 108-10-1 4-methylpentan-2-one

Oral	LD50	2080 mg/kg (rat)
Dermal	LD50	16000 mg/kg (rab)
Inhalative	LC50/4 h	8.3-16.6 mg/l (rat)

- **on the skin:** *No irritant effect.*
- **on the eye:** *Irritating effect.*
- **Sensitization:** *Sensitization possible through skin contact.*
- **Additional toxicological information:** *No further relevant information available.*

(Contd. on page 7)

CA

Safety Data Sheet

according to HPR, Schedule 1

Printing date 10/12/2017

Version number 10

Reviewed on 09/21/2017

Trade name: **SR Link**

(Contd. of page 6)

· **Carcinogenic categories**· **NTP (National Toxicology Program)**

None of the ingredients is listed.

12 Ecological information

· **Toxicity**· **Aquatic toxicity:** No further relevant information available.· **Persistence and degradability** No further relevant information available.· **Behavior in environmental systems:**· **Bioaccumulative potential** No further relevant information available.· **Mobility in soil** No further relevant information available.· **Additional ecological information:**· **General notes:**

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

· **Results of PBT and vPvB assessment**· **PBT:** Not applicable.· **vPvB:** Not applicable.· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**· **Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Take to an approved landfill or a waste incineration plant, under conditions approved by the local authority.

· **Uncleaned packagings:**· **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· **UN-Number**· **DOT, TDG, IMDG, IATA**

UN1993

· **UN proper shipping name**· **DOT**· **ADR/RID/ADN**Flammable liquids, n.o.s. (Butanols, Methyl isobutyl ketone)
1993 Flammable liquids, n.o.s. (Butanols, Methyl isobutyl ketone)· **IMDG, IATA**

FLAMMABLE LIQUID, N.O.S. (BUTANOLS, METHYL ISOBUTYL KETONE)

· **Transport hazard class(es)**· **DOT**· **Class**

3 Flammable liquids

(Contd. on page 8)

CA

Safety Data Sheet

according to HPR, Schedule 1

Printing date 10/12/2017

Version number 10

Reviewed on 09/21/2017

Trade name: **SR Link**

(Contd. of page 7)

· **Label** 3
 · **TDG (Transport dangerous goods):**



· **Class** 3 (F1) Flammable liquids
 · **Label** 3

· **IMDG, IATA**

· **Class** 3 Flammable liquids
 · **Label** 3

· **Packing group**
 · **DOT, TDG, IMDG, IATA** II

· **Environmental hazards:**
 · **Marine pollutant:** No

· **Special precautions for user** Warning: Flammable liquids
 · **Danger code (Kemler):** 33
 · **EMS Number:** F-E,S-E

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **UN "Model Regulation":** UN1993, Flammable liquids, n.o.s. (Butanols, Methyl isobutyl ketone), 3, II

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

CAS: 75-65-0 | 2-methylpropan-2-ol

CAS: 108-10-1 | 4-methylpentan-2-one

· **TSCA (Toxic Substances Control Act):**

CAS: 75-65-0 | 2-methylpropan-2-ol

CAS: 108-10-1 | 4-methylpentan-2-one

CAS: 72869-86-4 | urethane dimethacrylate

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

(Contd. on page 9)

CA

Safety Data Sheet according to HPR, Schedule 1

Printing date 10/12/2017

Version number 10

Reviewed on 09/21/2017

Trade name: **SR Link**

(Contd. of page 8)

· **Hazard pictograms**

GHS02 GHS07 GHS08

· **Signal word** *Danger*· **Hazard-determining components of labeling:**

2-methylpropan-2-ol
4-methylpentan-2-one
methacrylated phosphoric acid ester
urethane dimethacrylate

· **Hazard statements**

Highly flammable liquid and vapour.
Harmful if inhaled.
Causes serious eye irritation.
May cause an allergic skin reaction.
Suspected of causing cancer.
May cause respiratory irritation.

· **Precautionary statements**

Obtain special instructions before use.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Wear protective gloves/protective clothing/eye protection/face protection.
Use explosion-proof [electrical/ventilating/lighting] equipment.
Ground and bond container and receiving equipment.
Use non-sparking tools.
Take actions to prevent static discharges.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.
Do not handle until all safety precautions have been read and understood.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Specific treatment (see on this label).
Call a POISON CENTER/doctor if you feel unwell.
IF exposed or concerned: Get medical advice/attention.
If skin irritation or rash occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
In case of fire: Use for extinction: CO₂, powder or water spray.
Take off contaminated clothing and wash it before reuse.
Store locked up.
Store in a well-ventilated place. Keep container tightly closed.
Store in a well-ventilated place. Keep cool.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· **National regulations:**· **Other regulations, limitations and prohibitive regulations**

The product is a medical device according to the Directive 93/42/EEC.
This product is classified as a medical device under US and Canadian regulations and has been reviewed by the US Food and Drug Administration and Health Canada.

(Contd. on page 10)

CA

Safety Data Sheet
according to HPR, Schedule 1

Printing date 10/12/2017

Version number 10

Reviewed on 09/21/2017

Trade name: SR Link

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

(Contd. of page 9)

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Date of preparation / last revision** 10/12/2017 / 9

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

· *** Data compared to the previous version altered.**

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