1 Identification

- **Product identifier**
  - **Trade name:** Virtual Tray Adhesive

- **Relevant identified uses of the substance or mixture and uses advised against**
  - No further relevant information available.

- **Application of the substance / the mixture** Custom tray material

- **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(s) identification

- **Classification of the substance or mixture**
  - Flam. Liq. 2 H225 Highly flammable liquid and vapor.
  - Skin Irrit. 2 H315 Causes skin irritation.
  - Repr. 2 H361 Suspected of damaging fertility or the unborn child.
  - STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.
  - Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.

- **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:**
  - toluene
Hazard statements
Highly flammable liquid and vapor.
Causes skin irritation.
Suspected of damaging fertility or the unborn child.
May cause damage to organs through prolonged or repeated exposure.
May be fatal if swallowed and enters airways.

Precautionary statements
Obtain special instructions before use.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Wear protective gloves/protective clothing/eye protection/face protection.
If swallowed: Immediately call a poison center/doctor.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
In case of fire: Use for extinction: CO2, powder or water spray.

Additional information:
Medical devices are exempt from the labeling provisions of GHS according to the Hazard Communication Standard (HCS).

Classification system:

NFPA ratings (scale 0 - 4)
- Health = 1
- Fire = 3
- Reactivity = 0

HMIS-ratings (scale 0 - 4)
- Health = *1
- Fire = 3
- Reactivity = 0

Other hazards
Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.

Composition/information on ingredients

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

Dangerous components:
- 1330-20-7 xylene 25-50%
- 108-88-3 toluene 15-<20%
- 67-63-0 propan-2-ol 1-<2.5%

First-aid measures

Description of first aid measures
General information:
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

After inhalation:
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
In case of unconsciousness place patient stably in side position for transportation.
40.1.5

- **After skin contact:**
  Immediately rinse with water.
  If skin irritation continues, consult a doctor.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** Seek medical treatment.
- **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 Fire-fighting 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: Mouth 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.
  Do not flush with water or aqueous cleansing agents
- **Reference to other sections**
  See Section 7 for information on safe handling.
  See Section 8 for information on personal protection equipment.
  See Section 13 for disposal information.

## 7 Handling and storage

- **Handling:**
  - Precautions for safe handling
    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.
    - Information about storage in one common storage facility: Not required.
    - Further information about storage conditions:
      Keep receptacle tightly sealed.
      Store in cool, dry conditions in well sealed receptacles.
Trade name: Virtual Tray Adhesive

Store receptacle in a well ventilated area.

- **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:**

    | Substance | PEL Long-term value | REL Short-term value | TLV Short-term value |
    |-----------|---------------------|----------------------|----------------------|
    | 1330-20-7 xylene | 435 mg/m³, 100 ppm | 655 mg/m³, 150 ppm | 651 mg/m³, 150 ppm |
    | 108-88-3 toluene | 200 ppm | 560 mg/m³, 150 ppm | 75 mg/m³, 20 ppm |
    | 67-63-0 propan-2-ol | 980 mg/m³, 400 ppm | 1225 mg/m³, 500 ppm | 984 mg/m³, 400 ppm |

- **Ingredients with biological limit values**

<table>
<thead>
<tr>
<th>Substance</th>
<th>BEI</th>
<th>Medium</th>
<th>Time</th>
<th>Parameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>1330-20-7 xylene</td>
<td>1.5 g/g creatinine</td>
<td>urine</td>
<td>end of shift</td>
<td>Methylhippuric acids</td>
</tr>
</tbody>
</table>

(Contd. on page 5)
## Safety Data Sheet

**Trade name:** Virtual Tray Adhesive

### 108-88-3 toluene

<table>
<thead>
<tr>
<th>BEI</th>
<th>Substance</th>
<th>Parameter</th>
<th>Medium</th>
<th>Time</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.02 mg/L</td>
<td>toluene</td>
<td>Toluene</td>
<td>blood</td>
<td>prior to last shift of workweek</td>
<td>0.03 mg/L</td>
</tr>
<tr>
<td>0.3 mg/g creatinine</td>
<td>o-Cresol with hydrolysis</td>
<td>o-Cresol</td>
<td>urine</td>
<td>end of shift</td>
<td>40 mg/L</td>
</tr>
</tbody>
</table>

### 67-63-0 propan-2-ol

<table>
<thead>
<tr>
<th>BEI</th>
<th>Substance</th>
<th>Parameter</th>
<th>Medium</th>
<th>Time</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 mg/L</td>
<td>propan-2-ol</td>
<td>Acetone</td>
<td>urine</td>
<td>end of shift at end of workweek</td>
<td>0.3 mg/g creatinine</td>
</tr>
</tbody>
</table>

- **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.
  - Keep away from foodstuffs, beverages and feed.
  - Immediately remove all soiled and contaminated clothing.
  - Wash hands before breaks and at the end of work.
  - 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.
  - Filter AX
- **Protection of hands:**

  **Protective gloves**

  The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

  **Material of gloves**

  - Butyl rubber, BR
  - Fluorocarbon rubber (Viton)
  - PVA gloves

  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.
40.1.5 · 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.

· Eye protection:
Tightly sealed goggles

9 Physical and chemical properties

<table>
<thead>
<tr>
<th>Information on basic physical and chemical properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Information</td>
</tr>
<tr>
<td>Appearance:</td>
</tr>
<tr>
<td>Form: Fluid</td>
</tr>
<tr>
<td>Color: Blue</td>
</tr>
<tr>
<td>Odor: Characteristic</td>
</tr>
<tr>
<td>Odour threshold: Not determined.</td>
</tr>
<tr>
<td>pH-value: Not determined.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Change in condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melting point/Melting range: Undetermined.</td>
</tr>
<tr>
<td>Boiling point/Boiling range: Undetermined.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Flash point:</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 21 °C (&lt; 70 °F)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Auto igniting:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product is not selfigniting.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Danger of explosion:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product is not explosive. However, formation of explosive air/vapor mixtures are possible.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Explosion limits:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower: Not determined.</td>
</tr>
<tr>
<td>Upper: Not determined.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vapor pressure:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not determined.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Density at 20 °C (68 °F):</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.9 g/cm³ (7.511 lbs/gal)</td>
</tr>
<tr>
<td>Relative density: Not determined.</td>
</tr>
<tr>
<td>Vapour density: Not determined.</td>
</tr>
<tr>
<td>Evaporation rate: Not determined.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Solubility in / Miscibility with Water:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not miscible or difficult to mix.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Partition coefficient (n-octanol/water):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not determined.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Viscosity:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dynamic: Not determined.</td>
</tr>
<tr>
<td>Kinematic: Not determined.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Solvent content:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organic solvents: 55.5 %</td>
</tr>
<tr>
<td>VOC content: 55.5 %</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other information</th>
</tr>
</thead>
<tbody>
<tr>
<td>No further relevant information available.</td>
</tr>
</tbody>
</table>
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: No dangerous reactions known.
- 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:

<table>
<thead>
<tr>
<th>Substance</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalative LC50/4h</th>
</tr>
</thead>
<tbody>
<tr>
<td>1330-20-7 xylene</td>
<td>4300 mg/kg (rat)</td>
<td>2000 mg/kg (rabbit)</td>
<td></td>
</tr>
<tr>
<td>108-88-3 toluene</td>
<td>5000 mg/kg (rat)</td>
<td>12124 mg/kg (rabbit)</td>
<td>5320 mg/l (mouse)</td>
</tr>
</tbody>
</table>

- Primary irritant effect:
  - on the skin: Irritant to skin and mucous membranes.
  - on the eye: No irritating effect.
  - Sensitization: No sensitizing effects known.
- Additional toxicological information: No further relevant information available.

- Carcinogenic categories
  - IARC (International Agency for Research on Cancer)
    - 1330-20-7 xylene: 3
    - 108-88-3 toluene: 3
    - 67-63-0 propan-2-ol: 3

- NTP (National Toxicology Program)
  - None of the ingredients is listed.

- OSHA-Ca (Occupational Safety & Health Administration)
  - 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 2 (Self-assessment): hazardous for water

(Contd. on page 8)
40.1.5 Do not allow product 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 together with household garbage. Do not allow product to reach sewage system.
  - Uncleaned packagings:
  - Recommendation: Disposal must be made according to official regulations.

14 Transport information

- UN-Number
  - DOT, ADR, IMDG, IATA
    - UN1133

- UN proper shipping name
  - ADR
    - 1133 ADHESIVES
  - IMDG, IATA
    - ADHESIVES

- Transport hazard class(es)
  - DOT
    - Class: 3 Flammable liquids
    - Label: 3
  - ADR
    - Class: 3 (F1) Flammable liquids
    - Label: 3
  - IMDG, IATA
    - Class: 3 Flammable liquids
    - Label: 3

- Packing group
  - DOT, ADR, IMDG, IATA
    - II

- Environmental hazards:
  - Marine pollutant: No
### Safety Data Sheet  
**acc. to OSHA HCS**

**Trade name:** Virtual Tray Adhesive

<table>
<thead>
<tr>
<th>Special precautions for user</th>
<th>Warning: Flammable liquids</th>
</tr>
</thead>
<tbody>
<tr>
<td>Danger code (Kemler):</td>
<td>33</td>
</tr>
<tr>
<td>EMS Number:</td>
<td>F-E,S-D</td>
</tr>
</tbody>
</table>

- **Transport code (Kemler):** 33  
- **EMS Number:** F-E,S-D

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

- **Transport/Additional information:**
  - **ADR**
    - **Excepted quantities (EQ)**
      - Code: E2
      - Maximum net quantity per inner packaging: 30 ml
      - Maximum net quantity per outer packaging: 500 ml
  - **IMDG**
    - **Limited quantities (LQ)**: 5L
    - **Excepted quantities (EQ)**
      - Code: E2
      - Maximum net quantity per inner packaging: 30 ml
      - Maximum net quantity per outer packaging: 500 ml

- **UN "Model Regulation":** UN1133, Adhesives, 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):** All ingredients are listed.
    - **TSCA (Toxic Substances Control Act):** All ingredients are listed.

- **Proposition 65**
  - **Chemicals known to cause cancer:** None of the ingredients is listed.
  - **Chemicals known to cause reproductive toxicity for females:** None of the ingredients is listed.
  - **Chemicals known to cause reproductive toxicity for males:** None of the ingredients is listed.
  - **Chemicals known to cause developmental toxicity:**
    - 108-88-3 toluene

- **Carcinogenic categories**
  - **EPA (Environmental Protection Agency)**
    - 1330-20-7 xylene I
    - 108-88-3 toluene II
  - **TLV (Threshold Limit Value established by ACGIH)**
    - 1330-20-7 xylene A4
    - 108-88-3 toluene A4

(Contd. on page 10)
Trade name: Virtual Tray Adhesive

67-63-0 propan-2-ol

- NIOSH-Ca (National Institute for Occupational Safety and Health)
  None of the ingredients is listed.

- 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:
  toluene

- Hazard statements
  Highly flammable liquid and vapor.
  Causes skin irritation.
  Suspected of damaging fertility or the unborn child.
  May cause damage to organs through prolonged or repeated exposure.
  May be fatal if swallowed and enters airways.

- Precautionary statements
  Obtain special instructions before use.
  Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
  Wear protective gloves/protective clothing/eye protection/face protection.
  If swallowed: Immediately call a poison center/doctor.
  If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
  In case of fire: Use for extinction: CO2, powder or water spray.

- 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.

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

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 04/20/2015 / 5
- Abbreviations and acronyms:
  ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
  IMDG: International Maritime Code for Dangerous Goods
  DOT: US Department of Transportation
  IATA: International Air Transport Association
  ACGIH: American Conference of Governmental Industrial Hygienists
  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)
  VOC: Volatile Organic Compounds (USA, EU)
  LC50: Lethal concentration, 50 percent
  LD50: Lethal dose, 50 percent
  Flam. Liq. 2: Flammable liquids, Hazard Category 2
Trade name: Virtual Tray Adhesive

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Repr. 2: Reproductive toxicity, Hazard Category 2
STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2
Asp. Tox. 1: Aspiration hazard, Hazard Category 1

* Data compared to the previous version altered.