1 Identification

- Product identifier
- Trade name: Fluor Protector
- Relevant identified uses of the substance or mixture and uses advised against
  No further relevant information available.
- Application of the substance / the mixture
  Protective varnish containing fluoride
- 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.
  Eye Irrit. 2A H319 Causes serious eye irritation.
  Skin Sens. 1 H317 May cause an allergic skin reaction.
  STOT SE 3 H336 May cause drowsiness or dizziness.

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

- Hazard pictograms

  GHS02  GHS07

- Signal word Danger

- Hazard-determining components of labeling:
  ethyl acetate
  polyisocyanate

(Contd. on page 2)
Hazard statements
Highly flammable liquid and vapor.
Causes serious eye irritation.
May cause an allergic skin reaction.
May cause drowsiness or dizziness.

Precautionary statements
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Wear protective gloves/protective clothing/eye protection/face protection.
Do not breathe vapours.
Keep container tightly closed.
If skin irritation or rash occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.

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 = 2
Fire = 3
Reactivity = 1

HMIS-ratings (scale 0 - 4)

Health = 2
Fire = 3
Reactivity = 1

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:

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>141-78-6</td>
<td>50-100%</td>
</tr>
<tr>
<td>105-68-0</td>
<td>10-&lt;25%</td>
</tr>
<tr>
<td>53317-61-6</td>
<td>10-&lt;20%</td>
</tr>
</tbody>
</table>

First-aid measures

Description of first aid measures
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. If symptoms persist, consult a doctor.

After swallowing:
Rinse out mouth and then drink plenty of water.
If symptoms persist consult doctor.
5 Fire-fighting measures

- Extinguishing media
  - Suitable extinguishing agents:
    - CO2, extinguishing powder or water spray. Fight larger fires with water spray.
  - 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.

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).
  - 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
    - Only adequately trained personnel should handle this product.
    - 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: Not required.
  - Further information about storage conditions:
    - Keep receptacle tightly sealed.
    - Store in cool, dry conditions in well sealed receptacles.
    - Store receptacle in a well ventilated area.
  - Specific end use(s) No further relevant information available.

(Contd. on page 4)
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:

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>141-78-6 ethyl acetate</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PEL</td>
<td>Long-term value: 1400 mg/m³, 400 ppm</td>
<td></td>
</tr>
<tr>
<td>REL</td>
<td>Long-term value: 1400 mg/m³, 400 ppm</td>
<td></td>
</tr>
<tr>
<td>TLV</td>
<td>Long-term value: 1440 mg/m³, 400 ppm</td>
<td></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.
    Do not inhale gases / fumes / aerosols.
    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.

- 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

  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.

  - Eye protection:

  Tightly sealed goggles

(Contd. on page 5)
Trade name: **Fluor Protector**

## 9 Physical and chemical properties

### Information on basic physical and chemical properties

**General Information**

- **Appearance:**
  - **Form:** Fluid
  - **Color:** Clear
  - **Odor:** Fruit-like
  - **Odour threshold:** Not determined.

- **pH-value:** Not determined.

- **Change in condition**
  - **Melting point/Melting range:** Undetermined.
  - **Boiling point/Boiling range:** Undetermined.

- **Flash point:** 9 °C (48 °F)

- **Ignition temperature:** 460 °C (860 °F)

- **Auto igniting:** Product is not selfigniting.

- **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

### Explosion limits:

- **Lower:** 2.1 Vol %
- **Upper:** 11.5 Vol %

### Vapor pressure at 20 °C (68 °F):

- 97 hPa (73 mm Hg)

### Density at 20 °C (68 °F):

- 0.869 g/cm³ (7.252 lbs/gal)

### Relative density:

- Not determined.

### Vapour density:

- Not determined.

### Evaporation rate:

- Not determined.

### Solubility in / Miscibility with Water:

- Not miscible or difficult to mix.

### Partition coefficient (n-octanol/water):

- Not determined.

### Viscosity:

- **Dynamic:** Not determined.
- **Kinematic:** Not determined.

### Solvent content:

- **VOC content:** 67.7 %

### Other information:

- No further relevant information available.

## 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:
    - 141-78-6 ethyl acetate
      - Oral LD50: 5620 mg/kg (rabbit)
      - Inhalative LC50/4 h: 1600 mg/l (rat)
  - Primary irritant effect:
    - 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.

- **Carcinogenic categories**
  - 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 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.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
### 14 Transport information

<table>
<thead>
<tr>
<th>DOT, ADR, IMDG, IATA</th>
<th>UN proper shipping name</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT</td>
<td>UN1173 ETHYL ACETATE</td>
</tr>
<tr>
<td>ADR</td>
<td>ETHYL ACETATE</td>
</tr>
<tr>
<td>IMDG, IATA</td>
<td>ETHYL ACETATE</td>
</tr>
<tr>
<td>UN Number</td>
<td>UN1173</td>
</tr>
<tr>
<td>DOT</td>
<td>1173</td>
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<td>ETHYL ACETATE</td>
</tr>
<tr>
<td>IMDG, IATA</td>
<td>ETHYL ACETATE</td>
</tr>
</tbody>
</table>

- **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

- **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"**: UN1173, Ethyl acetate, 3, II

(Contd. on page 8)
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):
      None of the ingredients is listed.
  - TSCA (Toxic Substances Control Act):
    141-78-6 ethyl acetate
    105-68-0 isopentyl propionate
    53317-61-6 polyisocyanate
  - 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:
      None of the ingredients is listed.
  - Carcinogenic categories
    - EPA (Environmental Protection Agency)
      None of the ingredients is listed.
    - TLV (Threshold Limit Value established by ACGIH)
      None of the ingredients is listed.
    - 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
  - Signal word
    Danger
  - Hazard-determining components of labeling:
    ethyl acetate
    polyisocyanate
  - Hazard statements
    Highly flammable liquid and vapor.
    Causes serious eye irritation.
    May cause an allergic skin reaction.
    May cause drowsiness or dizziness.

(Contd. on page 9)
Safety Data Sheet
acc. to OSHA HCS

Trade name: Fluor Protector

· Precautionary statements
  Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
  Wear protective gloves/protective clothing/eye protection/face protection.
  Do not breathe vapours.
  Keep container tightly closed.
  If skin irritation or rash occurs: Get medical advice/attention.
  If eye irritation persists: Get medical advice/attention.

· 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 05/20/2015 / 8

· 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
  Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A
  Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
  STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

· * Data compared to the previous version altered.