1 Identification

- Product identifier
  - Trade name: PANAVIA 21 ; CATALYST PASTE (EX, TC, OP)
  - Article number: US050-PC
- Relevant identified uses of the substance or mixture and uses advised against
  - No further relevant information available.
- Application of the substance / the mixture
  - Resin-based dental adhesive cement
- Details of the supplier of the safety data sheet
  - Manufacturer:
    Kuraray Noritake Dental Inc.
    1621 Sakazu, Kurashiki, Okayama 710-0801, Japan
  - Contact information:
    Kuraray America, Inc.
    33 Maiden Lane, 6th Floor, New York, NY 10038, U.S.A.
    Tel: 800-879-1676
    Fax: 888-700-5200
    Website: www.kuraraydental.com
  - Emergency telephone number:
    For chemical emergency spill, leak, fire, exposure or accident
    Call CHEMTREC day and night
    Within USA and Canada: 1-800-424-9300 CCN706984 or
    +1 703-527-3887 (collect calls accepted)

2 Hazard(s) Identification

- Classification of the substance or mixture
  - The product is not classified according to the Globally Harmonized System (GHS).
- Label elements
  - GHS label elements: Void
  - Hazard pictograms: Void
  - Signal word: Void
  - Hazard statements: Void
- Other hazards
  - Results of PBT and vPvB assessment
    - PBT: Not applicable.
    - vPvB: Not applicable.

3 Composition/information on ingredients

- Chemical characterization: Mixtures
- Description:
  - Mixture of substances listed below with nonhazardous additions.
- Dangerous components: Void
- Other ingredients:
  - 10-Methacryloyloxydecyl dihydrogen phosphate
  - Hydrophobic aromatic dimethacrylate
  - Hydrophobic aliphatic dimethacrylate
  - Silanated silica filler
  - Colloidal silica
  - Catalysts

(Contd. on page 2)
4 First-aid measures

- Description of first aid measures
  - After inhalation: Supply fresh air; consult doctor in case of complaints.
  - After skin contact: Generally the product does not irritate the skin.
  - After eye contact: Rinse opened eye for several minutes under running water.
  - After swallowing: If symptoms persist consult doctor.
- 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.
  - Special hazards arising from the substance or mixture: No further relevant information available.
- Advice for firefighters
  - Protective equipment: No special measures required.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures: See Section 8.
- Environmental precautions: No special measures required.
- Methods and material for containment and cleaning up: Pick up mechanically.
- Reference to other sections: No dangerous substances are released.

7 Handling and storage

- Handling:
  - Precautions for safe handling: No special measures required.
  - Information about protection against explosions and fires: No special measures required.
- Conditions for safe storage, including any incompatibilities
- Storage:
  - Requirements to be met by storerooms and receptacles: Store in a refrigerator (2-8 °C).
  - 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.
  - 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:
  - The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- Additional information: The lists that were valid during the creation were used as basis.
### Exposure controls
- **Personal protective equipment:**
  - **General protective and hygienic measures:**
    The usual precautionary measures for handling chemicals should be followed.
  - **Breathing equipment:** Not required.
  - **Protection of hands:**
    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**
    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 trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
  - **Eye protection:** Not required.

### 9 Physical and chemical properties

<table>
<thead>
<tr>
<th>Information on basic physical and chemical properties</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Information</strong></td>
</tr>
<tr>
<td><strong>Appearance:</strong></td>
</tr>
<tr>
<td>- Form: Pasty</td>
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<tr>
<td>- Color: White</td>
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<tr>
<td>- Odor: Odorless</td>
</tr>
<tr>
<td><strong>pH-value:</strong> Not determined</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Change in condition</th>
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<tbody>
<tr>
<td>- Melting point/Melting range:</td>
</tr>
<tr>
<td>Not determined</td>
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<tr>
<td>- Boiling point/Boiling range:</td>
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<tr>
<td>Not determined</td>
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<table>
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<th>Flash point:</th>
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<thead>
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<table>
<thead>
<tr>
<th>Decomposition temperature:</th>
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</thead>
<tbody>
<tr>
<td>Not determined</td>
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<table>
<thead>
<tr>
<th>Danger of explosion:</th>
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</thead>
<tbody>
<tr>
<td>Product does not present an explosion hazard.</td>
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<thead>
<tr>
<th>Explosion limits:</th>
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<tbody>
<tr>
<td>- Lower:</td>
</tr>
<tr>
<td>Not determined</td>
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<tr>
<td>- Upper:</td>
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<th>Oxidizing properties:</th>
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<th>Vapor pressure:</th>
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<table>
<thead>
<tr>
<th>Density:</th>
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<tbody>
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<td>2.0 g/cm³</td>
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<th>Relative density:</th>
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<table>
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<th>Vapor density</th>
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<th>Evaporation rate:</th>
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<tr>
<th>Solubility in / Miscibility with</th>
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<tbody>
<tr>
<td>Water: Insoluble</td>
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<table>
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<tr>
<th>Partition coefficient (n-octanol/water):</th>
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<tbody>
<tr>
<td>Not determined</td>
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</table>
Trade name: PANAVIA 21 ; CATALYST PASTE (EX, TC, OP)

(Contd. of page 3)

- Viscosity: Not determined
- Other information No further relevant information available.

* 10 Stability and reactivity

- Reactivity No further relevant information available.
- Chemical stability
- Thermal decomposition / conditions to be avoided:
  No decomposition if used and stored 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: Carbon monoxide and carbon dioxide

* 11 Toxicological information

- Information on toxicological effects
- Acute toxicity:
  - Primary irritant effect:
    - on the skin: No irritant effect.
    - on the eye: No irritating effect.
  - Sensitization: No sensitizing effects known.
- Additional toxicological information:
The product is not subject to classification according to internally approved calculation methods for preparations:
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.
- Carcinogenic categories

  - IARC (International Agency for Research on Cancer)
    None of the ingredients is listed.

  - 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: Generally not hazardous for water
  - Results of PBT and vPvB assessment
    - PBT: Not applicable.
    - vPvB: Not applicable.
- Other adverse effects No further relevant information available.

(Contd. on page 5)
13 Disposal considerations

- Waste treatment methods
  Recommendation: Smaller quantities can be disposed of with household waste.

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

14 Transport information

- UN-Number
  DOT, ADR, ADN, IMDG, IATA Void

- UN proper shipping name
  DOT, ADR, ADN, IMDG, IATA Void

- Transport hazard class(es)
  DOT, ADR, ADN, IMDG, IATA Void

- Packing group
  DOT, ADR, IMDG, IATA Void

- Environmental hazards:
  Marine pollutant: No

- Special precautions for user
  Not applicable.

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

- UN "Model Regulation": Void

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
  Sara

  - Section 355 (extremely hazardous substances):
    All ingredients are 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:
      All ingredients are listed.

    - Chemicals known to cause reproductive toxicity for females:
      All ingredients are listed.

    - Chemicals known to cause reproductive toxicity for males:
      All ingredients are listed.

    - Chemicals known to cause developmental toxicity:
      All ingredients are listed.
Trade name: PANAVIA 21 ; CATALYST PASTE (EX, TC, OP)

- Cancerogenity 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)
    All ingredients are listed.
  - 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.

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

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

* Data compared to the previous version altered.