1 Identification

- Product identifier
- Trade name: IPS e.max ZirCAD MT Colouring Liquid A3, A3.5, A4, B3, B4 / IPS e.max ZirCAD LT Colouring Liquid A3, A3.5, B3, B4 / IPS e.max ZirCAD MT Colouring Liquid brown / IPS e.max ZirCAD LT Colouring Liquid brown

- Application of the substance / the mixture: Manufacture of dental prothesis

- 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
  Skin Corrosion - Category 1B: H314 Causes severe skin burns and eye damage.
  Serious Eye Damage - Category 1: H318 Causes serious eye damage.
  Specific Target Organ Toxicity - Single Exposure - Category 3: H335 May cause respiratory irritation.

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

- Hazard pictograms
  GHS05
  GHS07

- Signal word: Danger

(Contd. on page 2)
Trade name: IPS e.max ZirCAD MT Colouring Liquid A3, A3.5, A4, B3, B4 / IPS e.max ZirCAD LT Colouring Liquid A3, A3.5 B3, B4
IPS e.max ZirCAD MT Colouring Liquid brown / IPS e.max ZirCAD LT Colouring Liquid brown

- Hazard-determining components of labeling:
  - inorganic nitrate salts
- Hazard statements
  - Causes severe skin burns and eye damage.
  - May cause respiratory irritation.
- Precautionary statements
  - Wear protective gloves/protective clothing/eye protection/face protection.
  - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
  - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  - Immediately call a POISON CENTER/doctor.
  - Dispose of contents/container in accordance with local/regional/national/international regulations.

- Classification system:
  - NFPA ratings (scale 0 - 4)
    - Health = 3
    - Fire = 0
    - Reactivity = 0
  - HMIS-ratings (scale 0 - 4)
    - Health = 3
    - Fire = 0
    - Reactivity = 0

3 Composition/Information on ingredients

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

- Dangerous components:
  - CAS: 10031-51-3 Erbium(III) nitrate pentahydrate 2.5<25% w/w
  - CAS: 7782-61-8 Iron(III) nitrate nonahydrate 2.5-<10% w/w

4 First aid measures

- Description of first aid measures
  - After inhalation:
    - Supply fresh air or oxygen; call for doctor.
    - In case of unconsciousness place patient stably in side position for transportation.
  - After skin contact:
    - Immediately rinse with water.
  - After eye contact:
    - Rinse opened eye for several minutes under running water.
    - Call a doctor immediately.
  - After swallowing:
    - Rinse out mouth and then drink plenty of water.
    - Seek medical treatment.
  - Information for doctor:
    - Most important symptoms and effects, both acute and delayed No further relevant information available.

(Contd. on page 3)
5 Firefighting measures

- Extinguishing media
  - Suitable extinguishing agents: Use fire fighting measures that suit the environment.
  - 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
  - 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).
- 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.
    - For use in dentistry only.
  - 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 only in the original receptacle.
    - Information about storage in one common storage facility: Not required.
  - Further information about storage conditions:
    - Keep receptacle tightly sealed.
    - 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.
Trade name: IPS e.max ZirCAD MT Colouring Liquid A3, A3.5, A4, B3, B4 / IPS e.max ZirCAD LT Colouring Liquid A3, A3.5 B3, B4 / IPS e.max ZirCAD MT Colouring Liquid brown / IPS e.max ZirCAD LT Colouring Liquid brown

- **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.
    - Keep away from foodstuffs, beverages and feed.
    - Wash hands before breaks and at the end of work.
    - Immediately remove all soiled and contaminated clothing.
    - Avoid contact with the eyes and skin.
  - **Breathing equipment:** Not required.
  - **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**
        - Natural rubber, NR
        - Chloroprene rubber, CR
        - Nitrile rubber, NBR
        - Butyl rubber, BR
        - Fluorocarbon rubber (Viton)
      - Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
      - **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

- **Information on basic physical and chemical properties**
- **General Information**
  - **Appearance:**
    - Form: Fluid
    - Color: Different according to coloring
    - Odor: Characteristic
    - Odor threshold: Not determined.
  - **pH-value at 20 °C:** < 2
- **Change in condition**
  - Melting point/Melting range: Undetermined.
  - Boiling point/Boiling range: Undetermined.
Trade name: IPS e.max ZirCAD MT Colouring Liquid A3, A3.5, A4, B3, B4 / IPS e.max ZirCAD LT Colouring Liquid A3, A3.5 B3, B4 IPS e.max ZirCAD MT Colouring Liquid brown / IPS e.max ZirCAD LT Colouring Liquid brown

- Flash point: Undetermined.
- Flammability (solid, gaseous): Not applicable.
- Auto igniting: Product is not selfigniting.
- Danger of explosion: Product does not present an explosion hazard.
- Vapor pressure: Not determined.
- Density: Not determined.
- Relative density Not determined.
- Vapor density Not determined.
- Evaporation rate Not determined.
- Solubility in / Miscibility with Water: Soluble.
- Partition coefficient (n-octanol/water): Not determined.
- Viscosity: Dynamic: Not determined.
  Kinematic: Not determined.
- 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: Based on available data, the classification criteria are not met.
  - on the skin: Caustic effect on skin and mucous membranes.
  - on the eye: Strong irritant with the danger of severe eye injury.
  - Additional toxicological information: Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
- 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:
    - 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: UN3264

- **UN proper shipping name**
  - DOT: Corrosive liquid, acidic, inorganic, n.o.s. (inorganic nitrate salts)

- **ADR/RID/ADN**
  - 3264 Corrosive liquid, acidic, inorganic, n.o.s. (inorganic nitrate salts)
  - IMDG, IATA: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (inorganic nitrate salts)

- **Transport hazard class(es)**
  - DOT
    - Class: 8 Corrosive substances
Trade name: IPS e.max ZirCAD MT Colouring Liquid A3, A3.5, A4, B3, B4 / IPS e.max ZirCAD LT Colouring Liquid A3, A3.5 B3, B4
IPS e.max ZirCAD MT Colouring Liquid brown / IPS e.max ZirCAD LT Colouring Liquid brown

- Label 8
- TDG (Transport dangerous goods):
  - Class 8 (C1) Corrosive substances
  - Label 8

- IMDG, IATA

  - Class 8 Corrosive substances
  - Label 8

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

- Environmental hazards:
  Not applicable.

- Special precautions for user
  Warning: Corrosive substances
- Danger code (Kemler): 80
- EMS Number: F-A,S-B
- Segregation groups: Acids
- Stowage Category: B
- Stowage Code: SW2 Clear of living quarters.

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

- Transport/Additional information:

  - ADR/RID/ADN
    - 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) 1L
    - Excepted quantities (EQ) Code: E2
      Maximum net quantity per inner packaging: 30 ml
      Maximum net quantity per outer packaging: 500 ml

  - UN "Model Regulation": UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (INORGANIC NITRATE SALTS), 8, 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: 10031-51-3 Erbium(III) nitrate pentahydrate
      - CAS: 7782-61-8 Iron(III) nitrate nonahydrate
    - **TSCA (Toxic Substances Control Act):**
      All ingredients are listed.
  - **GHS label elements**
    - The product is classified and labeled according to the Globally Harmonized System (GHS).
  - **Hazard pictograms**
    - GHS05
    - GHS07

- **Signal word** Danger

- **Hazard-determining components of labeling:**
  - inorganic nitrate salts

- **Hazard statements**
  - Causes severe skin burns and eye damage.
  - May cause respiratory irritation.

- **Precautionary statements**
  - Wear protective gloves/protective clothing/eye protection/face protection.
  - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
  - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  - Immediately call a POISON CENTER/doctor.
  - 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.
  - **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** 06/20/2017 / 1
- **Abbreviations and acronyms:**
  - IMDG: International Maritime Code for Dangerous Goods

(Contd. on page 9)
Trade name: IPS e.max ZirCAD MT Colouring Liquid A3, A3.5, A4, B3, B4 / IPS e.max ZirCAD LT Colouring Liquid A3, A3.5 B3, B4
IPS e.max ZirCAD MT Colouring Liquid brown / IPS e.max ZirCAD LT Colouring Liquid brown

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)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative

* Data compared to the previous version altered.