**SECTION 1: Identification of the substance/mixture and of the company/undertaking**

- **1.1 Product identifier**
  - Trade name: Nitric Acid

- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
  - No further relevant information available.
  - **Application of the substance / the mixture** Electroplating auxiliary

- **1.3 Details of the supplier of the safety data sheet**
  - **Manufacturer/Supplier:** Ivoclar Vivadent AG
  - Bendererstrasse 2
  - LI-9494 Schaan
  - PRINCIPALITY OF LIECHTENSTEIN

  Tel: +423 235 35 35
  Fax: +423 235 33 60

  - **Further information obtainable from:**
    - Regulatory Affairs
    - sds@ivoclarvivadent.com

- **1.4 Emergency telephone number:** +423 / 235 33 13 (Ivoclar Vivadent AG, LI-9494 Schaan, Liechtenstein)

**SECTION 2: Hazards identification**

- **2.1 Classification of the substance or mixture**
  - **Classification according to Regulation (EC) No 1272/2008**
    - Met. Corr. 1 H290 May be corrosive to metals.
    - Skin Corr. 1A H314 Causes severe skin burns and eye damage.
    - Eye Dam. 1 H318 Causes serious eye damage.

- **2.2 Label elements**
  - **Labelling according to Regulation (EC) No 1272/2008**
    - The product is classified and labelled according to the CLP regulation.

  - **Hazard pictograms**
    - GHS05

- **Signal word** Danger

- **Hazard-determining components of labelling:**
  - nitric acid

  - **Hazard statements**
    - H290 May be corrosive to metals.
    - H314 Causes severe skin burns and eye damage.

  - **Precautionary statements**
    - P260 Do not breathe dust/fume/gas/mist/vapours/spray.
    - P280 Wear protective gloves/protective clothing/eye protection/face protection.
    - P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
    - P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
    - P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
    - P310 Immediately call a POISON CENTER/doctor.

(Contd. on page 2)
Trade name: Nitric Acid

- Additional information:
  EUH071 Corrosive to the respiratory tract.
- 2.3 Other hazards
- Results of PBT and vPvB assessment
  - PBT: Not applicable.
  - vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

- 3.2 Chemical characterisation: Mixtures
  - Description: Mixture of substances listed below with nonhazardous additions.
  - Dangerous components:
    - CAS: 7697-37-2
    - EINECS: 231-714-2
    - nitric acid Ox. Liq. 2, H272; Skin Corr. 1A, H314 25-50%
  - Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

- 4.1 Description of first aid measures
  - General information: Immediately remove any clothing soiled by the product.
  - After inhalation:
    In case of unconsciousness place patient stably in side position for transportation.
    Supply fresh air; consult doctor in case of complaints.
  - 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.
    Do not induce vomiting; call for medical help immediately.
- 4.2 Most important symptoms and effects, both acute and delayed
  No further relevant information available.
- 4.3 Indication of any immediate medical attention and special treatment needed
  No further relevant information available.

SECTION 5: Firefighting measures

- 5.1 Extinguishing media
- Suitable extinguishing agents: Use fire extinguishing methods suitable to surrounding conditions.
- 5.2 Special hazards arising from the substance or mixture
  In case of fire, the following can be released:
  Nitrogen oxides (NOx)
- 5.3 Advice for firefighters
- Protective equipment: Wear self-contained respiratory protective device.

SECTION 6: Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures
  Wear protective equipment. Keep unprotected persons away.
- 6.2 Environmental precautions:
  Do not allow to enter sewers/surface or ground water.
Trade name: *Nitric Acid*

6.3 Methods and material for containment and cleaning up:
- Use neutralising agent.
- Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- Ensure adequate ventilation.
- Dispose contaminated material as waste according to item 13.

6.4 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.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
- Only adequately trained personnel should handle this product.
- Ensure good ventilation/exhaustion at the workplace.
- Prevent formation of aerosols.
- For use in dentistry only.
- Information about fire - and explosion protection: No special measures required.

7.2 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: Do not store together with alkalis (caustic solutions).
  - Further information about storage conditions: Keep container tightly sealed.
  - Protect from heat and direct sunlight.

7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

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

8.2 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.
  - Respiratory protection:
    - Not necessary if room is well-ventilated.
    - In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- Recommended filter device for short term use: Special gas filter NO-P3
**Trade name:** Nitric Acid

- **Protection of hands:**
  - Protective gloves (EN 374)
  - After use of gloves apply skin-cleaning agents and skin cosmetics.
- **Material of gloves**
  - Chloroprene rubber, CR
  - Fluorocarbon rubber (Viton)
  - Nitrile rubber, NBR
  - Butyl rubber, BR
  - 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 (EN 166)
- **Body protection:** Protective work clothing

### SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**
  - Form: Fluid
  - Colour: Yellowish
  - Odour: Product specific
  - Odour threshold: Not determined.
- **pH-value at 20 °C:** <1
- **Change in condition**
  - Melting point/freezing point: Undetermined.
  - Initial boiling point and boiling range: 110 °C
- **Flash point:** Not applicable.
- **Flammability (solid, gas):** Not applicable.
- **Auto-ignition temperature:** Product is not selfigniting.
- **Explosive properties:** Product does not present an explosion hazard.
- **Explosion limits:**
  - Lower: Not determined.
  - Upper: Not determined.
- **Vapour pressure:** Not determined.
- **Density at 20 °C:** 1.20 - 1.40 g/cm³
- **Relative density** Not determined.
- **Vapour density** Not determined.
- **Evaporation rate** Not determined.
**Trade name:** Nitric Acid

- **Solubility in / Miscibility with water:** Fully miscible.
- **Partition coefficient: n-octanol/water:** Not determined.
- **Viscosity:**
  - Dynamic: Not determined.
  - Kinematic: Not determined.
- **9.2 Other information**
  - No further relevant information available.

**SECTION 10: Stability and reactivity**

- **10.1 Reactivity**
  - No further relevant information available.
- **10.2 Chemical stability**
  - Stable under normal handling and storage conditions.
- **Thermal decomposition / conditions to be avoided:**
  - No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions**
  - Reacts with alkali and metals.
- **10.4 Conditions to avoid**
  - No further relevant information available.
- **10.5 Incompatible materials:**
  - No further relevant information available.
- **10.6 Hazardous decomposition products:**
  - Nitrogen oxides

**SECTION 11: Toxicological information**

- **11.1 Information on toxicological effects**
  - **Acute toxicity**
    - Based on available data, the classification criteria are not met.
  - **Skin corrosion/irritation**
    - Causes severe skin burns and eye damage.
  - **Serious eye damage/irritation**
    - Causes serious eye damage.
  - **Respiratory or skin sensitisation**
    - Based on available data, the classification criteria are not met.
  - **Germ cell mutagenicity**
    - Based on available data, the classification criteria are not met.
  - **Carcinogenicity**
    - Based on available data, the classification criteria are not met.
  - **Reproductive toxicity**
    - Based on available data, the classification criteria are not met.
  - **STOT-single exposure**
    - Based on available data, the classification criteria are not met.
  - **STOT-repeated exposure**
    - Based on available data, the classification criteria are not met.
  - **Aspiration hazard**
    - Based on available data, the classification criteria are not met.

**SECTION 12: Ecological information**

- **12.1 Toxicity**
  - **Aquatic toxicity:**
    - **CAS:** 7697-37-2 nitric acid
    - **LC50/48 h:**
      - 180 mg/l (crustaceans) (Min.)
      - 180 mg/l (crustaceans) (Max.)
      - 180 mg/l (crustaceans) (Median)
  - **12.2 Persistence and degradability**
    - No further relevant information available.
  - **12.3 Bioaccumulative potential**
    - No further relevant information available.
  - **12.4 Mobility in soil**
    - No further relevant information available.
  - **Additional ecological information:**
    - **General notes:**
      - Must not reach sewage water or drainage ditch undiluted or unneutralised.

(Contd. on page 6)
Trade name: Nitric Acid

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water use.
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

12.5 Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.

12.6 Other adverse effects: No further relevant information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
- Recommendation
Must not be disposed 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.

13.2 Uncleaned packaging:
- Recommendation: Disposal must be made according to official regulations.
- Recommended cleansing agents: Water, if necessary together with cleansing agents.

SECTION 14: Transport information

14.1 UN-Number
- ADR/RID/ADN, IMDG, IATA UN2031

14.2 UN proper shipping name
- ADR/RID/ADN 2031 NITRIC ACID solution
- IMDG, IATA NITRIC ACID solution

14.3 Transport hazard class(es)
- ADR/RID/ADN
  - Class 8 (C1) Corrosive substances.
  - Label 8

- IMDG, IATA
  - Class 8 Corrosive substances.
  - Label 8

14.4 Packing group
- ADR/RID/ADN, IMDG, IATA II

14.5 Environmental hazards: Not applicable.

14.6 Special precautions for user
- Danger code (Kemler): Warning: Corrosive substances.
- EMS Number: F-A,S-B
- Segregation groups Acids
Trade name: Nitric Acid

- Stowage Category: D
- 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code: Not applicable.

Transport/Additional information:
- ADR/RID/ADN
  - 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
- Transport category: 2
- Tunnel restriction code: E
- 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 2031 NITRIC ACID SOLUTION, 8, II

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- Directive 2012/18/EU
- Named dangerous substances - ANNEX I None of the ingredients is listed.
- REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3
- 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 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.

Relevant phrases
H272 May intensify fire; oxidiser.
H314 Causes severe skin burns and eye damage.

Classification according to Regulation (EC) No 1272/2008
The classification of the mixture is generally based on the calculation method using substance data according to Regulation (EC) No 1272/2008.

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
- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- 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)
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Ox. Liq. 2: Oxidising liquids – Category 2
- Met. Corr. 1: Corrosive to metals – Category 1
- Skin Corr. 1A: Skin corrosion/irritation – Category 1A
- Eye Dam. 1: Serious eye damage/eye irritation – Category 1A