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

- 1.1 Product identifier
  - Trade name: ZYMOLYASE 20T
  - Article number: 32092
  - CAS Number: 37340-57-1

- 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: Research use only.

- 1.3 Details of the supplier of the safety data sheet
  - Manufacturer/Supplier:
    MP Biomedicals Europe
    Parc d'Innovation BP 50067
    Rue Geiler de Kaysersberg
    Illkirch Cedex 67402
    France
    tel: +33 3.88.67.54.25
    www.mpbio.com

- 1.4 Emergency telephone number:
  - CHEMTREC: 1-800-424-9300 (1-703-527-3887)
  - n° ORFILA" (01-45-42-59-59)

SECTION 2: Hazards identification

- 2.1 Classification of the substance or mixture
  - Classification according to Regulation (EC) No 1272/2008
    GHS08 health hazard
    Resp. Sens. 1. H334. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

- 2.2 Label elements
  - Labelling according to Regulation (EC) No 1272/2008
    The substance is classified and labelled according to the CLP regulation.
  - Hazard pictograms
    GHS08

- Signal word Danger

- Hazard-determining components of labelling:
  - Yeast Lytic Enzyme

- Hazard statements
  - H334. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

- Precautionary statements
  - P101: If medical advice is needed, have product container or label at hand.
  - P102: Keep out of reach of children.
  - P103: Read label before use.
  - P284: [In case of inadequate ventilation] wear respiratory protection.
  - P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
  - P342+P311: If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
  - P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
  - P501: Dispose of contents/container in accordance with local/regional/national/international regulations.

(Contd. on page 2)
Trade name: ZYMOLYASE 20T

SECTION 3: Composition/information on ingredients

- 3.1 Chemical characterisation: Substances
  - CAS No. Description
    - 37340-57-1 Yeast Lytic Enzyme

SECTION 4: First aid measures

- 4.1 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.

- 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:
    - CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
  - 5.2 Special hazards arising from the substance or mixture
    - No further relevant information available.
  - 5.3 Advice for firefighters
    - Protective equipment: No special measures required.

SECTION 6: Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures
  - Not required.
- 6.2 Environmental precautions: Do not allow to enter sewers/surface or ground water.

- 6.3 Methods and material for containment and cleaning up:
  - Dispose contaminated material as waste according to item 13.
    - Ensure adequate ventilation.

- 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
  - Ensure good ventilation/exhaustion at the workplace.

- 7.2 Conditions for safe storage, including any incompatibilities
  - Storage: 2 - 8 °C
  - Requirements to be met by storerooms and receptacles: No special requirements.

- Information about storage in one common storage facility: Not required.
7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

- Additional information about design of technical facilities: No further data; see item 7.
- 8.1 Control parameters
- Ingredients with limit values that require monitoring at the workplace: Not required.
- Additional information: The lists valid during the making were used as basis.
- 8.2 Exposure controls
- Personal protective equipment:
- General protective and hygienic measures:
  - Keep away from foodstuffs, beverages and feed.
  - Immediately remove all soiled and contaminated clothing
  - Wash hands before breaks and at the end of work.
- Respiratory protection:
  - 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.
- 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.
- 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: Not required.

SECTION 9: Physical and chemical properties

- 9.1 Information on basic physical and chemical properties
- General Information
- Appearance:
  - Form: Powder
  - Colour: Beige
  - Odour: Characteristic
  - Odour threshold: Not determined.
- pH-value: Not applicable.
- Change in condition
  - Melting point/Melting range: Undetermined.
  - Boiling point/Boiling range: Undetermined.
- Flash point: Not applicable.
- Flammability (solid, gaseous): Product is not flammable.
- Ignition temperature:
  - Decomposition temperature: Not determined.
  - Self-igniting: Not determined.
- Danger of explosion: Product does not present an explosion hazard.
Safety data sheet according to 1907/2006/EC, Article 31

Trade name: ZYMOLYASE 20T

- Explosion limits:
  - Lower: Not determined.
  - Upper: Not determined.

- Vapour pressure: Not applicable.

- Density:
  - Relative density: Not determined.
  - Vapour density: Not applicable.
  - Evaporation rate: Not applicable.

- Solubility in / Miscibility with water: Soluble.

- Partition coefficient (n-octanol/water): Not determined.

- Viscosity:
  - Dynamic: Not applicable.
  - Kinematic: Not applicable.

- Solvent content:
  - Organic solvents: 0.0 %
  - VOC (EC): 0.00 %

- Solids content: 100.0 %

- 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

- Thermal decomposition / conditions to be avoided:
  No decomposition if used according to specifications.

- 10.3 Possibility of hazardous reactions
  No dangerous reactions known.

- 10.4 Conditions to avoid
  No further relevant information available.

- 10.5 Incompatible materials:
  No further relevant information available.

- 10.6 Hazardous decomposition products:
  No dangerous decomposition products known.

SECTION 11: Toxicological information

- 11.1 Information on toxicological effects
  - Acute toxicity: Based on available data, the classification criteria are not met.
  - Primary irritant effect:
  - Skin corrosion/irritation: Based on available data, the classification criteria are not met.
  - Serious eye damage/irritation: Based on available data, the classification criteria are not met.
  - Respiratory or skin sensitisation
    May cause allergy or asthma symptoms or breathing difficulties if inhaled.
  - CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)
  - 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
  No further relevant information available.
Trade name: ZYMOLYASE 20T

- **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:**
    Water hazard class 1 (German Regulation) (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.
  - **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.
- **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, ADN, IMDG, IATA** Not regulated
- **14.2 UN proper shipping name**
  - **ADR, ADN, IMDG, IATA** Not regulated
- **14.3 Transport hazard class(es)**
  - **ADR, ADN, IMDG, IATA** Not regulated
  - **Class** Not regulated
- **14.4 Packing group**
  - **ADR, IMDG, IATA** Not regulated
- **14.5 Environmental hazards:**
  - **Marine pollutant:** No
- **14.6 Special precautions for user** Not applicable.
- **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code** Not applicable.
- **UN "Model Regulation":** Not regulated

**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 Substance is not listed.
  - **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.

- Department issuing MSDS: Product safety department
- 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
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)
  - VOC: Volatile Organic Compounds (USA, EU)
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative
  - Resp. Sens. 1: Sensitisation - Respirat., Hazard Category 1