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

- Product identifier
  - Trade name: Vitronectin ACF
  - Article number: 05-754-0002
  - CAS Number: 83380-82-9
- Relevant identified uses of the substance or mixture and uses advised against
  - No further relevant information available.
- Application of the substance / the mixture
  - Vitronectin is a secreted glycoprotein that can support cell adhesion through binding to various integrins and proteoglycans. Recombinant vitronectin ACF can function as a chemically-defined matrix component for the attachment of human embryonic and induced pluripotent stem cells in a feeder-free culture system. Recombinant Vitronectin ACF is a 459 amino acid, single-chain, monomeric protein, which migrates at an apparent molecular weight of 75 kDa by SDS-PAGE under reducing conditions. The calculated molecular weight of Vitronectin ACF is 52.2 kDa.

2 Hazards identification

- Classification of the substance or mixture
  - Classification according to Regulation (EC) No 1272/2008
    - The substance is not classified, according to the CLP regulation.
- Label elements
  - Labelling according to Regulation (EC) No 1272/2008 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 characterisation: Substances
  - CAS No. Description
    - 83380-82-9 Vitronectin
- Additional information:
  - This product does not contain any hazardous substances at concentration of 1% or greater. This product is not known to contain carcinogens at a concentration of 0.1% or greater.
4 First aid measures

- Description of first aid measures
  - General information: No special measures required.
  - 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: Do not induce vomiting; call for medical help immediately.

- 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 Firefighting measures

- Extinguishing media
  - Suitable extinguishing agents: Use fire extinguishing methods suitable to surrounding conditions.

- 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
  - Use respiratory protective device against the effects of fumes/dust/aerosol.

- Environmental precautions: Do not allow to enter sewers/ surface or ground water.

- Methods and material for containment and cleaning up: No special measures required.

- 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: No special precautions are necessary if used correctly.
  - Information about fire - and explosion protection: No special measures required.

- Conditions for safe storage, including any incompatibilities
  - Storage:
    - Requirements to be met by storerooms and receptacles: (-80°C) (-20°C)
    - Information about storage in one common storage facility: Not required
    - Further information about storage conditions: Avoid exposure to heat and moisture, keep tightly closed.

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

8 Exposure controls/personal protection

- Additional information about design of technical facilities: No further data; see item 7.
49.0.14

- 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.

- Exposure controls
- Personal protective equipment:
  - General protective and hygienic measures:
    The usual precautionary measures are to be adhered to when handling chemicals.
  - Respiratory protection: Not required, Ensure adequate ventilation.
  - Protection of hands:
    The glove material has to be impermeable and resistant to the product/substance/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.

9 Physical and chemical properties

- Information on basic physical and chemical properties
  
  General Information
  
  - Appearance:
    Form: Powder
    Colour: White
    Odour: Characteristic
    Odour threshold: Not determined.
  - pH-value: Not applicable.

  Change in condition
  Melting point/freezing point: Undetermined.
  Initial boiling point and boiling range: Undetermined.

- Flash point: Not applicable.
- Flammability (solid, gas): Product is not flammable.
- Decomposition temperature: Not determined.
- Auto-ignition temperature: Not determined.
- Explosive properties: Product does not present an explosion hazard.

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

- Vapour pressure: Not applicable.
- Density: Not determined.
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- Relative density: Not determined.
- Vapour density: Not applicable.
- Evaporation rate: Not applicable.
- Solubility in / Miscibility with water: Not determined.
- Partition coefficient: n-octanol/water: Not determined.
- Viscosity: 
  - Dynamic: Not applicable.
  - Kinematic: Not applicable.
- Solids content: 100.0 %
- 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 according to specifications.
- Possibility of hazardous reactions: No dangerous reactions known.
- Conditions to avoid: Heat and moisture
- Incompatible materials: Strong Oxidizing agent
- Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

- 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: Based on available data, the classification criteria are not met.
- 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.

12 Ecological information

- Toxicity
- Aquatic toxicity: No further relevant information available.
- Persistence and degradability: No further relevant information available.
- Behaviour in environmental systems:
- Bioaccumulative potential: No further relevant information available.
- Mobility in soil: No further relevant information available.
13 Disposal considerations

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

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

14 Transport information

- UN-Number
  - ADR, IMDG, IATA: not regulated

- UN proper shipping name
  - ADR, IMDG, IATA: not regulated

- Transport hazard class(es)
  - ADR, ADN, IMDG, IATA: not regulated

- Packing group
  - ADR, IMDG, IATA: not regulated

- Environmental hazards:
  - Not applicable.

- Special precautions for user
  - Not applicable.

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

- UN "Model Regulation":
  - Not regulated

15 Regulatory information

- 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.
  - 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.

- Department issuing SDS: Product safety department.
Trade name: Vitronectin ACF

- Contact: Ms. BADICHI GITLIN
- 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)
  PBT: Persistent, Bioaccumulative and Toxic
  vPvB: very Persistent and very Bioaccumulative