1 Identification

- Product identifier
- Trade name: BIO-HEMATOTM Karyotyping Medium, with conditioned medium
- Article number: 01-200-1
- Details of the supplier of the safety data sheet
  - Manufacturer/Supplier: Biological Industries Israel Beit Haemek Ltd.
  - BEIT HAEMEK 25115
  - ISRAEL
  - michalb@bioind.com
- Information department: Product safety department.
- Emergency telephone number: During normal opening times: +972/4/9962467

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
- Classification system:
  - NFPA ratings (scale 0 - 4)
    - Health = 0
    - Fire = 0
    - Reactivity = 0
  - HMIS-ratings (scale 0 - 4)
    - Health = 0
    - Fire = 0
    - Reactivity = 0
- 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 the substances listed below with nonhazardous additions.
- Dangerous components: Void

4 First-aid measures

- Description of first aid measures
- General information: No special measures required.
46.0.19 · 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: 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 No personal precautions required
· 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.
· Protective Action Criteria for Chemicals

<table>
<thead>
<tr>
<th>PAC-1</th>
<th>7365-45-9</th>
<th>4-(2-hydroxyethyl)piperazin-1-ylethanesulphonic acid</th>
<th>30 mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>144-55-8</td>
<td>sodium hydrogencarbonate</td>
<td>13 mg/m³</td>
</tr>
<tr>
<td></td>
<td>1310-73-2</td>
<td>sodium hydroxide</td>
<td>0.3 mg/m³</td>
</tr>
<tr>
<td></td>
<td>10035-04-8</td>
<td>CALCIUM CHLORIDE Dihydrate</td>
<td>16 mg/m³</td>
</tr>
<tr>
<td></td>
<td>10034-99-8</td>
<td>MAGNESIUM SULFATE Heptahydrate</td>
<td>33 mg/m³</td>
</tr>
<tr>
<td></td>
<td>113-24-6</td>
<td>sodium pyruvate</td>
<td>30 mg/m³</td>
</tr>
<tr>
<td></td>
<td>34487-61-1</td>
<td>sodium hydrogen 4,4’-(3H-2,1-benzoxathiol-3-ylidene)bisphenolate S,S-dioxide</td>
<td>12 mg/m³</td>
</tr>
<tr>
<td></td>
<td>7778-77-0</td>
<td>potassium dihydrogenorthophosphate</td>
<td>9.6 mg/m³</td>
</tr>
<tr>
<td></td>
<td>98-92-0</td>
<td>nicotinamide</td>
<td>5.6 mg/m³</td>
</tr>
<tr>
<td></td>
<td>139-33-3</td>
<td>disodium dihydrogenethylenediaminetetraacetate</td>
<td>11 mg/m³</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PAC-2</th>
<th>7365-45-9</th>
<th>4-(2-hydroxyethyl)piperazin-1-ylethanesulphonic acid</th>
<th>330 mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>144-55-8</td>
<td>sodium hydrogencarbonate</td>
<td>140 mg/m³</td>
</tr>
<tr>
<td></td>
<td>1310-73-2</td>
<td>sodium hydroxide</td>
<td>5 mg/m³</td>
</tr>
<tr>
<td></td>
<td>10035-04-8</td>
<td>CALCIUM CHLORIDE Dihydrate</td>
<td>170 mg/m³</td>
</tr>
<tr>
<td></td>
<td>10034-99-8</td>
<td>MAGNESIUM SULFATE Heptahydrate</td>
<td>370 mg/m³</td>
</tr>
<tr>
<td></td>
<td>113-24-6</td>
<td>sodium pyruvate</td>
<td>330 mg/m³</td>
</tr>
</tbody>
</table>
Trade name: BIO-HEMATO™ Karyotyping Medium, with conditioned medium

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Ingredient Name</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>34487-61-1</td>
<td>sodium hydrogen 4,4’-(3H-2,1-benzoxathiol-3-ylidene)bisphenolate S,S-dioxide</td>
<td>130 mg/m³</td>
</tr>
<tr>
<td>7778-77-0</td>
<td>potassium dihydrogenorthophosphate</td>
<td>110 mg/m³</td>
</tr>
<tr>
<td>98-92-0</td>
<td>nicotinamide</td>
<td>62 mg/m³</td>
</tr>
<tr>
<td>139-33-3</td>
<td>disodium dihydrogenethylenediaminetetraacetate</td>
<td>120 mg/m³</td>
</tr>
<tr>
<td>7365-45-9</td>
<td>4-(2-hydroxyethyl)piperazin-1-yethanesulphonic acid</td>
<td>2,000 mg/m³</td>
</tr>
<tr>
<td>144-55-8</td>
<td>sodium hydrogencarbonate</td>
<td>840 mg/m³</td>
</tr>
<tr>
<td>1310-73-2</td>
<td>sodium hydroxide</td>
<td>50 mg/m³</td>
</tr>
<tr>
<td>10035-04-8</td>
<td>CALCIUM CHLORIDE DIHYDRATE</td>
<td>1,100 mg/m³</td>
</tr>
<tr>
<td>10034-99-8</td>
<td>MAGNESIUM SULFATE HEPTAHYDRATE</td>
<td>2,300 mg/m³</td>
</tr>
<tr>
<td>113-24-6</td>
<td>sodium pyruvate</td>
<td>2,000 mg/m³</td>
</tr>
<tr>
<td>34487-61-1</td>
<td>sodium hydrogen 4,4’-(3H-2,1-benzoxathiol-3-ylidene)bisphenolate S,S-dioxide</td>
<td>790 mg/m³</td>
</tr>
<tr>
<td>7778-77-0</td>
<td>potassium dihydrogenorthophosphate</td>
<td>630 mg/m³</td>
</tr>
<tr>
<td>98-92-0</td>
<td>nicotinamide</td>
<td>690 mg/m³</td>
</tr>
<tr>
<td>139-33-3</td>
<td>disodium dihydrogenethylenediaminetetraacetate</td>
<td>730 mg/m³</td>
</tr>
</tbody>
</table>

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: (-10)-(-20) °C
    - Information about storage in one common storage facility: Not required.
    - Further information about storage conditions: Not required
    - 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:
      In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
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 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
  - Form: Liquid
  - Color: Red
  - Odor: Characteristic
  - Odor 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): Not applicable.
  - Decomposition temperature: Not determined.
  - Auto igniting: Product is not selfigniting.
  - Danger of explosion: Product does not present an explosion hazard.
  - Explosion limits:
    - Lower: Not determined.
    - Upper: Not determined.
  - Vapor pressure at 20 °C (68 °F): 23 hPa (17.3 mm Hg)
  - Density: Not determined.
  - Relative density: Not determined.
  - Vapor density: Not determined.
  - Evaporation rate: Not determined.
  - Solubility in / Miscibility with
    - Water: Fully miscible.
Trade name: BIO-HEMATO™ Karyotyping Medium, with conditioned medium

- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
  - Dynamic: Not determined.
  - Kinematic: Not determined.
- **Solvent content:**
  - Water: >98.0 %
  - VOC content: 0.00 %
  - 0.0 g/l / 0.00 lb/gl
- **Solids content:** 0.0 %
- **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** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

### 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.
  - **OSHA-Ca (Occupational Safety & Health Administration)** 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: 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, ADN, IMDG, IATA: not regulated
- UN proper shipping name
  - DOT, ADN, IMDG, IATA: not regulated
- Transport hazard class(es)
  - DOT, ADN, IMDG, IATA: not regulated
  - Class: not regulated
- Packing group
  - DOT, IMDG, IATA: not regulated
- 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": not regulated
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):
      None of the ingredients is listed.
  · TSCA (Toxic Substances Control Act):
    7647-14-5 sodium chloride
    50-99-7 glucose
    7365-45-9 4-(2-hydroxyethyl)piperazin-1-ylethanesulphonic acid
    144-55-8 sodium hydrogencarbonate
    56-85-9 levoglutamid
    7447-40-7 potassium chloride
    1310-73-2 sodium hydroxide
    113-24-6 sodium pyruvate
    56-86-0 glutamic acid
    657-27-2 lysine hydrochloride
    73-32-5 L-isoleucine
    61-90-5 L-leucine
    50-81-7 ascorbic acid
    72-19-5 L-threonine
    72-18-4 valine
    147-85-3 L-proline
    60-18-4 tyrosine
    63-91-2 3-phenyl-L-alanine
    56-84-8 aspartic acid
    56-45-1 L-serine
    56-41-7 L-alanine
    56-89-3 cystine
    7558-79-4 disodium hydrogenorthophosphate
    63-68-3 L-methionine
    34487-61-1 sodium hydrogen 4,4’-(3H-2,1-benzoxathiol-3-ylidene)bisphenolate S,S-dioxide
    73-22-3 L-tryptophan
    9002-07-7 Trypsin
    7778-77-0 potassium dihydrogenorthophosphate
    67-03-8 THIAMINE HYDROCHLORIDE
    98-92-0 nicotinamide
  · Proposition 65
    · Chemicals known to cause cancer:
      None of the ingredients is listed.
Trade name: BIO-HEMATO™ Karyotyping Medium, with conditioned medium

- **Chemicals known to cause reproductive toxicity for females:**
  None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for males:**
  None of the ingredients is listed.

- **Chemicals known to cause developmental toxicity:**
  None of the ingredients is listed.

- **Carcinogenic 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)
    None of the ingredients is listed.
  - GHS label elements Void
  - Hazard pictograms Void
  - Signal word Void
  - Hazard statements Void
  - 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.
- **Contact:** Ms. BADICHI GITLIN
- **Date of preparation / last revision** 05/09/2018 / -

**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
- DOT: US Department of Transportation
- IATA: International Air Transport Association
- ACGIH: American Conference of Governmental Industrial Hygienists
- 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)
- VOC: Volatile Organic Compounds (USA, EU)
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- NIOSH: National Institute for Occupational Safety
- OSHA: Occupational Safety & Health
- TLV: Threshold Limit Value
- PEL: Permissible Exposure Limit
- REL: Recommended Exposure Limit