SAFETY DATA SHEET
Conforms to Regulation (EC) No. 1907/2006 (REACH), 2006R1907_ EN_01.06.2012_012.001_1

Model number: PR-40-414201-00 Description: BlueFish probe

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

<table>
<thead>
<tr>
<th>Product name</th>
<th>BlueFish probe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model number</td>
<td>PR-40-414201-00</td>
</tr>
<tr>
<td>Company</td>
<td>BlueGnome Ltd</td>
</tr>
</tbody>
</table>

Emergency telephone number
The UK National Poisons Emergency 24 hour number for healthcare professionals is: 0844 892 0111 (outside UK +44 (0)844 892 0111), members of the public should contact, in England and Wales, NHS Direct - 0845 4647 or, In Scotland, NHS 24: 08454 24 24 24.

2. Hazards identification

Classification of the substance or mixture
Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008. This substance is not classified as dangerous according to Directive 67/548/EEC.

Classification
Not classified

See Section 11 for more detailed information on health effects and symptoms.

3. Composition/information on ingredients

Substance/preparation
Preparation containing approximately 4µg of DNA (deoxyribonucleic acid), of which 3µg are labelled with fluorescent dyes. This preparation does not contain concentrations >1% (w/w).

Formulation:
Supplied in aqueous solution (1x TE solution: 10 mM Tris-HCl, 1 mM disodium EDTA, pH 8.0)

Within the present knowledge of the supplier, the product contains no substances which at their given concentration and quantities, are considered to be hazardous to health. No components need to be disclosed according to the applicable regulations.

Type
[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit

Occupational exposure limits, if available, are listed in Section 8.
4. First-aid measures

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled
If breathed in, move person into fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

In case of skin contact
Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

In case of eye contact
Immediately flush eyes with plenty of water or eyewash sterile solutions, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Remove person to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Symptoms and effects, both acute and delayed
Eye contact No known significant effects or critical hazards.
Inhalation No known significant effects or critical hazards.
Skin contact No known significant effects or critical hazards.
Ingestion No known significant effects or critical hazards.

Over-exposure signs/symptoms
Eye contact No specific data.
Skin contact No specific data.
Ingestion No specific data.
Inhalation No specific data.

Protection of first-aiders
No action shall be taken involving any personal risk or without suitable training.

5. Fire fighting measures

Suitable extinguishing media
Use an extinguishing agent suitable for the surrounding fire.

Not suitable extinguishing media
None known

Hazards from the substance or mixture
In a fire or if heated, a pressure increase will occur and the container may burst.

Special hazards arising from the substance or mixture
Nature of decomposition products not known.

Special protective equipment for fire-fighters
Wear self-contained breathing apparatus and protective suit for fire fighting if necessary.

6. Accidental release measures

Personal precautions
Use personal protective equipment. Do not touch or walk through spilt material. Avoid breathing vapour or mist or gas. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions
Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Methods and materials for containment and cleaning up
Keep in suitable, closed containers for disposal. Dispose with laboratory chemical waste must be disposed of in accordance with local, state, and federal requirements.

7. Handling and storage

Precautions for safe handling
Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage
Store at 4°C. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area. Keep container tightly closed. Keep in properly labelled containers.

8. Exposure controls/personal protection

Components with workplace control parameters
Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection
Respiratory protection not required. For nuisance exposures use type OV/AG (US) or type ABEK (EU EN 14387) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection
Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Eye/face protection
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU) when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.

Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body protection
Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures
Handle in accordance with good industrial hygiene and safety practice. Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

9. Physical and chemical properties

| Appearance | Form liquid |
| Appearance | Form liquid |
| Colour | with ChromaTide® Alexa Fluor® 488 – green; with CyTM3 – orange |
| Odour | Odourless |

PR-40-414201-00 - BlueFish probe MSDS
Revision: 1.3
Issue date: 9/24/2012
Safety data

<table>
<thead>
<tr>
<th>Property</th>
<th>Data Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>Product does not sustain combustion</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Non-flammable or explosive in the presence of the following materials or conditions: open flames, sparks and static discharge, heat, shocks and mechanical impacts, oxidizing materials, reducing materials, combustible materials, organic materials, metals, acids, alkalis and moisture.</td>
</tr>
<tr>
<td>Ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour density</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Water solubility</td>
<td>Easily soluble in cold water or hot water</td>
</tr>
<tr>
<td>Partition coefficient:</td>
<td>n-octanol/water</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No data available</td>
</tr>
</tbody>
</table>

10. Stability and reactivity

Reactivity
No specific text data related to reactivity available for this product or its ingredients.

Chemical stability
The product is stable.

Possibility of hazardous reactions
Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid
Excess heat, protect from light.

Incompatible materials
No specific data

Hazardous decomposition products
Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Other decomposition products
No data available

11. Toxicological information

Acute toxicity
Very low toxicity to humans or animals. Acute toxicity estimates not available.

Irritation/corrosion
No data available

Sensitiser
No data available

Mutagenicity
No known significant effects or critical hazards.

Carcinogenicity
Very low toxicity to humans or animals.

IARC
No component of TE buffer product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity
No known significant effects or critical hazards.
Teratogenicity
No known significant effects or critical hazards.

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Potential health effects
Inhalation May be harmful if inhaled. May cause respiratory tract irritation.
Ingestion May be harmful if swallowed.
Skin May be harmful if absorbed through skin. May cause skin irritation.
Eyes May cause eye irritation.

Signs and Symptoms of Exposure
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. Ecological information

Toxicity
No data available

Bioaccumulative potential
No data available

Mobility in soil
No data available

PBT and vPvB assessment
Not applicable

Other adverse effects
No known significant effects or critical hazards.

13. Disposal considerations

Product
Observe all federal, state, and local environmental regulations. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Contaminated packaging
The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Hazardous waste
Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.

Packaging
The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

14. Transport information

ADR/RID
Not dangerous goods
IMDG
Not dangerous goods

IATA
Not dangerous goods

15. Regulatory information

EU Regulation (EC) No. 1907/2006 (REACH)
Substances of very high concern None of the components are listed.
Annex XVII Not applicable

Other EU regulations
Europe inventory All components are listed or exempted
Black list chemicals Not listed
Priority list chemicals Not listed
IPPC- air Not listed
IPPC- water Not listed

Chemical Weapons Convention
List Schedule I Chemicals Not listed
List Schedule II Chemicals Not listed
List Schedule III Chemicals Not listed

16. Other information

History:

<table>
<thead>
<tr>
<th>Date</th>
<th>Version</th>
<th>Comment</th>
</tr>
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<tbody>
<tr>
<td>2nd November 2007</td>
<td>1.0</td>
<td>Original creation</td>
</tr>
<tr>
<td>31st August 2010</td>
<td>1.1</td>
<td>Removal of red fluorochrome</td>
</tr>
<tr>
<td>15th August 2011</td>
<td>1.2</td>
<td>MSDS review and update</td>
</tr>
<tr>
<td>20th September 2012</td>
<td>1.3</td>
<td>Incorporation in to document control software and update of model numbers and company address</td>
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</tbody>
</table>

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