SECTION 1: Identification

1.1. Product identifier
Trade name: miRCURY LNA™ Array, 2x Hybridization Buffer
Item number: 208022

1.2. Relevant identified uses of the substance or mixture and uses advised against
Recommended uses: Life Science laboratory chemical. For research use only.

1.3. Details of the supplier of the safety data sheet
Supplier: Exiqon A/S
Skelstedet 16
2950 Vedbæk
Denmark
Tel: +4545660888
Fax: +4545661888
Email: support@exiqon.com
WWW: www.exiqon.dk

1.4. Emergency telephone number
Emergency telephone number: +45 45 66 08 88
Emergency telephone comments: The emergency telephone is open between 8 a.m. and 4 p.m. on workdays.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
Classification: Carc. 2 Repr. 1B STOT RE 2
Most serious harmful effects: Suspected of causing cancer. May damage the unborn child. May cause damage to organs through prolonged or repeated exposure.

2.2. Label elements
Signal word: Danger
Contains: Formamide
H-phrases: Suspected of causing cancer. May damage the unborn child. May cause damage to organs through prolonged or repeated exposure.
P-phrases: Obtain special instructions before use. Do not breathe vapours. Wear protective gloves.
2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Substance</th>
<th>w/w%</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>75-12-7-B</td>
<td>formamide</td>
<td>25-40</td>
<td></td>
</tr>
</tbody>
</table>

Other information: Any letters after the CAS number refer to individual data sets.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation: Seek fresh air. Seek medical advice in case of persistent discomfort.

Ingestion: Wash out mouth thoroughly and drink 1-2 glasses of water in small sips. Seek medical advice in case of discomfort.

Skin: Immediately remove contaminated clothing, watch and jewellery. Wash skin with soap and water. Seek medical advice in case of persistent discomfort.

Eyes: Flush with water (preferably using eyewash equipment) until irritation subsides. Seek medical advice if symptoms persist.

Other information: Bring the safety data sheet or label when seeking medical advice.

4.2. Most important symptoms and effects, both acute and delayed

Suspected of causing cancer. May damage the unborn child. Causes damage to organs through prolonged or repeated exposure.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptoms. No special immediate treatment required. Ensure that medical personnel are aware of the material involved, and take precautions to protect themselves.

SECTION 5: Fire-fighting measures

5.1. Extinguishing media

Suitable extinguishing media: The product is not directly flammable. Choose extinguishing agents based on the surrounding fire.

Unsuitable extinguishing media: Do not use a jet of water, as it may spread the fire.

5.2. Special hazards arising from the substance or mixture

The product decomposes when combusted and the following toxic gases can be formed: Nitrous gases/ Carbon monoxide and carbon dioxide.

5.3. Advice for firefighters

Move containers from danger area if it can be done without risk. Avoid inhalation of vapor and smoke gases – seek fresh air. Wear Self-Contained Breathing Apparatus with a chemical protection suit.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: Stop leak if this can be done without risk. Provide good ventilation. Wear gloves.

For emergency responders: In addition to the above: Protective suit is recommended.

6.2. Environmental precautions

Prevent spillage from entering drains and/or surface water.

6.3. Methods and material for containment and cleaning up

Wipe up minor spills with a cloth.

6.4. Reference to other sections

See section 8 for type of protective equipment. See section 13 for instructions on disposal.
SECTION 7: Handling and storage

7.1. Precautions for safe handling
The product should be used under well-ventilated conditions and preferably under process ventilation. Running water and eye wash equipment should be available. Wash hands before breaks, before using restroom facilities, and at the end of work. A workplace assessment must be conducted to ensure that employees are not exposed to effects that may involve a risk during pregnancy.

7.2. Conditions for safe storage, including any incompatibilities
Store safely, out of reach of children and away from food, animal feeding stuffs, drugs, etc.

7.3. Specific end use(s)
None.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
Occupational exposure limits:

<table>
<thead>
<tr>
<th>Ingredient:</th>
<th>Exposure limit</th>
<th>Notations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formamide</td>
<td>TWA: 10 ppm (ACGIH)</td>
<td>Skin</td>
</tr>
</tbody>
</table>

Legal basis: ACGIH Threshold Limit Values (TLV's) and Biological Exposure Indices (BEI's), 2015. OSHA 29 CFR part 1910.1000, table Z1-Z3, Limits for Air Contaminants 2006.

Notations: A skin notation assigned to the OEL identifies the possibility of significant uptake through the skin

Measuring methods: Compliance with the stated occupational exposure limits may be checked by occupational hygiene measurements.

8.2. Exposure controls
Appropriate engineering controls: Wear the personal protective equipment specified below.

Personal protective equipment, eye/face protection:
Wear safety goggles if there is a risk of eye splash.

Personal protective equipment, skin protection:
Wear gloves. Type of material and thickness: Nitril rubber. Penetration time: >8 hours.

Personal protective equipment, respiratory protection:
In case of insufficient ventilation, wear respiratory protective equipment. Filter type: A. B. K.

Environmental exposure controls: Ensure compliance with local regulations for emissions.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties
State: Liquid
Color: No data
Odour: No data
Odour threshold: No data
pH (solution for use): No data
pH (concentrate): No data
Melting point/freezing point: No data
Initial boiling point and boiling range: No data
Flash point: No data
Evaporation rate: No data
Flammability (solid, gas): No data
Upper/lower flammability limits: No data
Upper/lower explosive limits: No data
Vapor pressure: No data
Vapour density: No data
Relative density: No data
Solubility: Soluble in the following: Water.
Partition coefficient: No data
n-octanol/water: No data
Auto-ignition temperature: No data
Decomposition temperature: No data
Viscosity: No data
Explosive properties: No data
Oxidizing properties: No data

9.2. Other information
None.

SECTION 10: Stability and reactivity

10.1. Reactivity
Strong oxidisers.

10.2. Chemical stability
The product is stable when used in accordance with the supplier’s directions.

10.3. Possibility of hazardous reactions
None known.

10.4. Conditions to avoid
None known.

10.5. Incompatible materials
Strong oxidisers.

10.6. Hazardous decomposition products
Product decomposes in fire conditions or when heated to high temperatures, and inflammable and toxic gases may be released. Nitrous gases/ Sulphur oxides/ Carbon monoxide and carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral: The product does not have to be classified. Based on available data, the classification criteria are not met.
75-12-7-B: Rat: LD50 = 5325 mg/kg (OECD 401)

Acute toxicity - dermal: The product does not have to be classified. Based on available data, the classification criteria are not met. Can be absorbed through the skin causing symptoms such as dizziness and headache.
75-12-7-B: Rat: LD50 = >3000 mg/kg

Acute toxicity - inhalation: The product does not have to be classified. Based on available data, the classification criteria are not met.
75-12-7-B: Rat, , 4h: LC50 = >21 mg/l (OECD 403)

Skin corrosion/irritation: The product does not have to be classified. Based on available data, the classification criteria are not met.
75-12-7-B: Rabbit, 20h: Non-irritating

Serious eye damage/eye irritation: The product does not have to be classified. Based on available data, the classification criteria are not met.
75-12-7-B: Rabbit, Mild (OECD 405)

Respiratory sensitisation or skin sensitisation: The product does not have to be classified. Test data are not available.

Germ cell mutagenicity: The product does not have to be classified. Test data are not available.
Carcinogenic properties: Suspected of causing cancer.

This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Reproductive toxicity: May damage the unborn child.

75-12-7-B: Post-implantation mortality and fetotoxicity.

Single STOT exposure: The product does not have to be classified. Test data are not available.

Repeated STOT exposure: Causes damage to organs through prolonged or repeated exposure.

75-12-7-B: Rat: May cause damage to organs - blood

Aspiration hazard: The product does not have to be classified. Test data are not available.

Other toxicological effects: None known.

**SECTION 12: Ecological information**

**12.1. Toxicity**

The product does not have to be classified. Based on available data, the classification criteria are not met.

Acute toxicity:

- 75-12-7-B:
  - Fish: Leuciscus idus: 96hLC50 = 6569 mg/l
  - Crustaceans: Daphnia magna: 48hEC50 = >500 mg/l
  - Algae: 72hEC50 = >500 mg/l

**12.2. Persistence and degradability**

Expected to be biodegradable.

75-12-7-B: Readily biodegradable.

**12.3. Bioaccumulative potential**

No bioaccumulation expected.

75-12-7-B: Partition coefficient n-octanol/water: -0,82

**12.4. Mobility in soil**

Test data are not available.

**12.5. Results of PBT and vPvB assessment**

None known.

**12.6. Other adverse effects**

None known.

**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

Avoid discharge to drain or surface water.

If this product as supplied becomes a waste, it does not meet the criteria of a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

**SECTION 14: Transport information**

The product is not covered by the rules for transport of dangerous goods.
14.1. UN number -
14.2. UN proper shipping name -
14.3. Transport hazard class(es) -
14.4. Packing group -
14.5. Environmental hazards -
14.6. Special precautions for user -
14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code -

SECTION 15: Regulatory information
15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
Special provisions: Special care should be applied for employees under the age of 18. Young people under the age of 18 may not carry out any work causing harmful exposure to this product.

US Federal
TSCA: All ingredients are on the inventory or exempt from listing.
CERCLA: None of the ingredients are on the inventory.
SARA title III Rules
Section 302: None of the ingredients are on the inventory.
Section 311/312 Hazard classes:
- Fire Hazard
- Reactive Hazard
- Release of Pressure
- Acute Health Hazard
- Chronic Health Hazard

Section 313: None of the ingredients are on the inventory.
NFPA ratings (scale 0 - 4)
Health Hazard: 2
Flammability: 0
Instability: 0

HMIS III ratings (scale 0 - 4)
Health hazard: 4; *
Flammability: 0
Physical hazard: 0

Remarks: Chronic Hazard

State regulations
Proposition 65
Chemicals known to cause cancer:
None of the ingredients are listed
Chemicals known to cause reproductive toxicity:
None of the ingredients are listed

SECTION 16: Other information
Changes have been made in the following sections: 2,3,16
Abbreviation explanations:
STOT: Specific Target Organ Toxicity
vPvB: Very Persistent and Very Bioaccumulative
PBT: Persistent, Bioaccumulative and Toxic

Classification method:
Calculation based on the hazards of the known components.

Training: A thorough knowledge of this safety data sheet should be a prerequisite condition.

Other information: This safety data sheet has been prepared for and applies to this product only. It is based on our current knowledge and the information that the supplier was able to provide about the product at the time of preparation. The safety data sheet complies with applicable law on preparation of safety data sheets in accordance with CFR29, §1910.1200.

Revision: 01-04-2016
Replaces: 24-04-2014