SECTION 1 – PRODUCT AND COMPANY IDENTIFICATION

Product identifier: QClamp® Gene Mutation Detection Kits
Product Catalog Number: Refer to DiaCarta website @ www.diacarta.com
Manufacturer: DiaCarta, Inc.
Address: 2600 Hilltop Drive, Richmond, CA 94806, USA
Phone number: 1-800-246-8878
Emergency phone number: 1-800-246-8878
Recommended use: For research use. For human or animal therapeutic or clinical diagnostic use
Restrictions on use: N/A

SECTION 2 – HAZARDS IDENTIFICATION

Hazard description: Irritant to eyes, respiratory system and skin; harmful in contact with skin; toxic if swallowed.
Information concerning particular hazards for humans and environment: The product does not have to be labeled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
Classification system: The classification is according to the latest editions of the EU-lists, and extended by company and literature data.
OSHA hazards ratings: Health: 2; Fire: 2; Reactivity 0.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

Chemical characterization: Solutions, consisting of the following components

| CAS: 56-81-5; EINECS: 200-289-5 | Glycerol | 5-50% |
| CAS: 77-86-1; EINECS: 201-064-4 | 2-amino-2-(hydroxymethyl)-1, 3-propanediol Xi, R 36/37/38 | 1-5% |

Other components: Components not listed here are not dangerous or their concentrations do not exceed the limits specified in the EU directive 1999/45/EC.
Trade secret claims: N/A

SECTION 4 – FIRST-AID MEASURES

Important symptoms/effects, acute, delayed: This product might irritate skin and eyes and possibly cause ingestion toxicity. Avoid skin contact, wearing of gloves is recommended. Do not swallow.

Required treatment:
• After inhalation: Supply fresh air. Give artificial respiration of not breathing. Consult a physician in case of complaints.
• After skin contact: Flush skin with plenty of water. Remove contaminated clothing. Consult a physician in case of complaints.
• After eye contact: Rinse opened eye for several minutes under running water. Consult a physician in case of complaints.
• After ingestion: Rinse mouth with water if person is conscious. Do not induce vomiting unless directed to do so by medical personnel. If symptoms persist consult doctor.

SECTION 5 – FIRE-FIGHTING MEASURES

Lists suitable extinguishing techniques, equipment: CO2, powder or water spray. Fight larger files with water spray or appropriate foam. Wear a breathing apparatus and protective clothing to prevent contact with skin and eyes.

Chemical hazards from fire: Emits toxic fumes under fire conditions.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Protective equipment: Wear respirator, chemical safety googles, rubber boots and gloves.

Proper methods of containment and cleanup:
• Measures for environmental protection: Dilute with plenty of water. Do not allow undiluted or large quantities of product to enter sewers/surface or ground water.
• Measures for cleaning/collection: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
SECTION 7 – HANDLING AND STORAGE
Lists precautions for safe handling and storage, including incompatibilities:
• Information for safe handling: Avoid contact with eyes, skin and clothing; avoid prolonged or repeated exposure.
• Information for safe storage: No special requirements to be met by storerooms and receptacles; No special requirements to be met for storage in one common storage facility; No further information about storage conditions provided.

SECTION 8 – PRECAUTIONS TO CONTROL EXPOSURE/PERSONAL PROTECTION
Lists OSHA’s Permissible Exposure Limits (PELs): Glycerol: PEL () 15 mg/m3 total dust, 5 mg/m3 respirable fraction
ACGIH Threshold Limit Values (TLVs): Glycerol: TLV () 10 ppm
Other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the SDS where available as well as appropriate engineering controls: N/A
Personal protective equipment (PPE):
• General protective and hygienic measures: The usual precautionary measures are to be adhered to when handling chemicals.
• Respiratory protection: Not required for the levels present in this product.
• 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 for 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 physical degradation should be made.
• 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 cannot 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: Chemical safety goggles recommended.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES
Lists the chemical’s characteristics:

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form: Solution</td>
<td>Boiling point/Boiling range: Undetermined</td>
</tr>
<tr>
<td>Color: Colorless</td>
<td>Flash point: N/A</td>
</tr>
<tr>
<td>Odor: Odorless</td>
<td>Self-igniting: Product is not self-igniting</td>
</tr>
<tr>
<td>Melting point/Melting range: Undetermined</td>
<td>Danger of explosion: Product does not present an explosion hazard</td>
</tr>
<tr>
<td>Density: Undetermined</td>
<td>pH-value at 20°C: 7.5-8.5</td>
</tr>
<tr>
<td>Solubility in/Miscibility with water: Fully miscible</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 10 – STABILITY AND REACTIVITY
Lists chemical stability and possibility of hazardous reactions:
• Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications. Avoid strong heating.
• Dangerous reactions: Avoid reactions with bases and oxidizing agents.
• Dangerous decomposition products: Carbon monoxide, carbon dioxide, nitrogen oxides, hydrogen chloride gas, sulphur oxides

SECTION 11 – TOXICOLOGICAL INFORMATION
Includes routes of exposure:
• On the skin: Irritant
• On the eyes: Irritant

Related symptoms, acute and chronic effects: Hazardous in case of skin contact (irritant). Harmful if absorbed through skin. LD50 oral, rat – 12600 mg/kg. No sensitizing effects known.

Numerical measures of toxicity: The product is not subject to classification according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version. When used and handled according to specifications, the product does not have any harmful effects to our experience and the information provided to us.
SECTION 12 – 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.

SECTION 13 – WASTE DISPOSAL CONSIDERATIONS

Product recommendation: Smaller quantities can be disposed of with household waste.
Uncleaned packaging recommendation: Disposal must be made according to official regulations.
Recommended cleansing agents: Water, if necessary together with cleansing agents. Combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber.

SECTION 14 – TRANSPORT INFORMATION

• This product is not hazardous as defined by 49 CFR 172 by the US Department of Transportation.
• This product is not classified as hazardous goods, per the regulations of Transport Canada.
• This product is not classified as dangerous goods, per the rules of the International Air Transport Association (IATA).
• This product is not classified as dangerous goods, per the rules of the International Maritime Organization (IMO).
• This product is not classified by the United Nations Economic Commission for Europe to be dangerous goods (ADR).

SECTION 15 – REGULATORY INFORMATION

Labeling according to EU guidelines: Observe the general safety regulations when handling chemicals. The product is not subject to identification regulations under EU Directives and the Ordinance on Hazardous Materials (German GefStrV).
Special labeling of certain preparations: Safety data sheet available for professional user on request.

SECTION 16 – OTHER INFORMATION

This information is based on our present knowledge and shall be used only as a guide. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship. DiaCarta is not held liable for any damage resulting from handling or from contact with the above mentioned products. SDS has been prepared in accordance with EU directives 67/548/EEC, 91/155/EEC and other EU Community legislation in force.