Kit Components

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>QE09050 and QE0905T</td>
<td>QuickExtract™ DNA Extraction Solution</td>
</tr>
</tbody>
</table>

Components

QuickExtract™ DNA Extraction Solution
SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
Product name: QuickExtract™ DNA Extraction Solution 1.0
Product form: Mixture
Product code: This component may be purchased individually (QE09050, QE905T), and is a component in the following kits: BuccalAmp™ DNA Extraction Kits with Catch-All™ Hard Pack Buccal Swab (BQ0901SCR, BQ0908SCR, BQ0916SCR), BuccalAmp™ DNA Extraction Kits with Catch-All™ Soft Pack Buccal Swab (BQ0901SSC, BQ0908SSC, BQ0916SSC), BuccalAmp™ DNA Extraction Kits with MasterAmp™ Brush Hard Pack (BQ0901SRB, BQ0908SRB, BQ0916SRB), BuccalAmp™ DNA Extraction Kits with MasterAmp™ Brush Soft Pack (BQ0901SBS, BQ0908SBS, BQ0916SBS).

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use of the substance/mixture: Laboratory chemical.

1.3. Details of the supplier of the safety data sheet
Lucigen Corporation
2905 Parmenter Street
Middleton, WI 53562
U.S.A.
Phone: (608) 831-9011
Fax: (608) 831-9012
E-mail: techserv@lucigen.com

1.4. Emergency telephone number
Emergency number: 1-888-575-9695 (Lucigen: Monday-Friday, 8:00AM-5:00PM)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
Not a hazardous substance or mixture.

2.2. Label elements
Not a hazardous substance or mixture.

2.3. Other hazards
None.

2.4. Unknown acute toxicity (GHS-US)
No data available.

SECTION 3: Composition/information on ingredients

3.1. Mixture

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietary Ingredient.</td>
<td>Ingredient in product.</td>
<td>60-65%</td>
</tr>
</tbody>
</table>

SECTION 4: First aid measures

4.1. Description of first aid measures
First-aid measures general: If exposed or concerned, consult a physician. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use. Never give anything to an unconscious person.

First-aid measures after inhalation: IF INHALED: Remove to fresh air and keep at rest in a comfortable position for breathing. If not breathing, give artificial respiration. Consult a physician.

First-aid measures after skin contact: IF ON SKIN (or clothing): Remove affected clothing and wash all exposed skin for at least 15 minutes with tepid water. Consult a physician.

First-aid measures after eye contact: IF IN EYES: Immediately flush with plenty of tepid water for at least 15 minutes. Remove contact lenses if present and easy to do so. Continue rinsing. Consult a physician.

First-aid measures after ingestion: IF SWALLOWED: Never give anything by mouth to an unconscious person. Obtain medical assistance. Do NOT induce vomiting unless directed by medical personnel. If conscious and alert, rinse mouth and drink 2-4 cupfuls of water. Wash mouth out with water.
4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries : Not expected to present a significant acute hazard under anticipated conditions of normal use.
Symptoms/injuries after inhalation : May cause irritation to respiratory tract.
Symptoms/injuries after skin contact : May cause skin irritation.
Symptoms/injuries after eye contact : May cause eye irritation.
Symptoms/injuries after ingestion : May cause irritation of the digestive tract.

4.3. Indication of any immediate medical attention and special treatment needed
No data available.

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media : Water spray, carbon dioxide, dry chemical powder, alcohol-resistance foam, or appropriate foam.

5.2. Special hazards arising from the substance or mixture
Fire hazard : Emits toxic fumes under fire conditions.
Explosion hazard : No data available.
Reactivity : Can react with oxidizing agents and alkalis.

5.3. Advice for firefighters
Firefighting instructions : Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
General measures : Ventilate area. Evacuate area. Keep upwind. Spill should be handled by trained clean-up crews properly equipped with respiratory equipment and full chemical protective gear (see Section 8).

6.1.1. For non-emergency personnel
Protective equipment : Wear Personal Protective Equipment as described in Section 8.

6.1.2. For emergency responders
Protective equipment : Wear suitable protective clothing, gloves, respirator, and eye or face protection. For further information refer to section 8: "Exposure controls/personal protection". Avoid contact with skin and eyes.

6.2. Environmental precautions
Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
For containment : Contain any spills with dikes or inert absorbents (e.g., sand or vermiculite) to prevent migration and entry into sewers or streams.
Methods for cleaning up : Soak up spills with inert absorbents, such as sand or vermiculite as soon as possible. Place in closed waste container for disposal. This material and its container must be disposed of in a safe way, and as per local, state, and federal legislation.

6.4. Reference to other sections
No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Precautions for safe handling : Do not handle until all safety precautions have been read and understood. Wear recommended personal protective equipment. Avoid breathing dust, vapour, mist, or gas. Avoid contact with eyes, skin, and clothing. Wash hands and other exposed areas with mild soap and water after handling material, leaving the laboratory, before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities
Storage conditions : Store in a tightly closed container. Avoid heat. Store in a cool, dry, well-ventilated area away from incompatible substances.
SECTION 8: Exposure controls/personal protection

8.1. Control parameters
Contains no substances with occupational exposure limit values.

8.2. Exposure controls

Appropriate engineering controls:
Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Ensure adequate ventilation, especially in confined areas. Emergency safety shower and eye wash station should be available. Avoid prolonged or repeated exposure.

Personal protective equipment:
Gloves. Protective goggles. Laboratory Coat.

Hand protection:
Use gloves chemically resistant to this material when prolonged or repeated contact could occur. Gloves should be classified under Standard EN 374 or ASTM F1296. Suitable gloves for this specific application can be recommended by the glove supplier. Suggested glove materials are: Neoprene, Nitrile.

Eye protection:
Safety goggles should be worn when working with mixture. Avoid direct contact with eyes.

Skin and body protection:
Wear long sleeves, and chemically impervious PPE/coveralls to minimize bodily exposure as necessary.

Respiratory protection:
Use NIOSH/MSHA-approved dust/particulate respirator. Where vapor, mist, or dust exceed PELs or other applicable OELs, use NIOSH-approved respiratory protective equipment. Do not breathe in vapour, mist, or dust.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Liquid, dissolved powder
Color: Clear viscous solution
Odor: No data available
Odor Threshold: No data available
pH: No data available
Melting point: No data available
Freezing point: No data available
Boiling point: No data available
Flash point: No data available
Relative evaporation rate: No data available
Flammability (solid, gas): No data available
Vapour pressure: No data available
Relative vapour density at 20°C: No data available
Relative density: No data available
Solubility in Water: No data available
Log Pow: No data available
Log Kow: No data available
Auto-ignition temperature: No data available
Decomposition temperature: No data available
Viscosity, kinematic: No data available
Viscosity, dynamic: No data available
Explosive properties: No data available
Oxidising properties: No data available
Explosive limits: No data available

9.2. Other information
None.

SECTION 10: Stability and reactivity

10.1. Reactivity
No dangerous reactions known under normal conditions of use.
10.2. Chemical stability
Stable under normal temperatures and pressures. See use and storage conditions as recommended in section 7.

10.3. Possibility of hazardous reactions
None known. Hazardous polymerization does not occur.

10.4. Conditions to avoid
Excess heat, ignition sources.

10.5. Incompatible materials
Strong oxidants, reacts mildly with alkalis.

10.6. Hazardous decomposition products
Nitrogen oxides, carbon monoxide, carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>Acute toxicity</th>
<th>LD50 – Mouse - 8 g/kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin corrosion/irritation</td>
<td>No data available</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>No data available</td>
</tr>
<tr>
<td>Respiratory or skin sensitisation</td>
<td>No data available</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>No data available</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>IARC – No component of this product present at levels greater than or equal to 0.1% is identified as probablye, possible, or confirmed human carcinogen by IARC. ACGIH – No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH. NTP – No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. OSHA – No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.</td>
</tr>
</tbody>
</table>

Reproductive toxicity | No data available |
Specific target organ toxicity (single exposure) | No data available |
Specific target organ toxicity (repeated exposure) | No data available |
Aspiration hazard | No data available |
Symptoms/injuries after inhalation | May cause respiratory irritation. |
Symptoms/injuries after skin contact | May cause skin irritation. |
Symptoms/injuries after eye contact | May cause eye irritation. |
Symptoms/injuries after ingestion | May cause gastrointestinal irritation. |
Additional Information | No additional information. |

SECTION 12: Ecological information

12.1. Toxicity
No additional information available

12.2. Persistence and degradability
No additional information available

12.3. Bioaccumulative potential
No additional information available

12.4. Mobility in soil
No additional information available

12.5. Other adverse effects
Degradation products are more toxic than the original product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Waste treatment methods | Obtain the consent of pollution control authorities before discharging to wastewater treatment plants. Product should not be discharged to surface waters without a NPDES permit. |
Waste disposal recommendations: Dispose in a safe manner in accordance with local, state, and federal regulations. Avoid release to the environment.

SECTION 14: Transport information

DOT
Not hazardous for transport

IMDG
No additional information available

IATA
No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations
SARA 302
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 304 Extremely Hazardous Substances Reportable Quantity
This product does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards
No SARA Hazards

SARA 313
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

15.2. International regulations.
No additional information available

15.3. US State regulations
California Proposition 65
This product does not contain any substances known to the state of California to cause cancer and/or reproductive harm.

Massachusetts Right To Know Components
No components are subject to the Massachusetts Right to Know Act.

New Jersey Right to Know Hazardous Substance List
No components are subject to the New Jersey Right to Know Act.

Pennsylvania Right to Know List
No components are subject to the Pennsylvania Right to Know Act.

SECTION 16: Other information

Indication of changes: Revision X.0: Updated format.
Revision date: 06/05/2017
Other information: Author:

NFPA health hazard: 2 – Intense or continued but not chronic exposure could cause temporary incapacitation or possible residual injury.

NFPA fire hazard: 1 – Material that require considerable preheating, under all ambient temperature conditions, before ignition and combustion can occur. Flash point at or above 93.3°C.

NFPA reactivity: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.

HMIS III Rating

Health: 2
Flammability: 1
Physical Hazard: 0
Personal Protection: 0

This information is disclosed to the best of Lucigen’s knowledge. This document does not constitute a contractual relationship with product end users or handlers with respect to the possible presence of hazards in this item. Disposal should be in accordance with applicable regional, national and local laws and regulations.