MaterialSafety Data Sheet

FastGene Plasmid Mini Kit

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1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/ UNDERTAKING

Commercial Product name:	FastGene™ Plasmid Mini Kit
Product number:	FG-90402, FG-90502
Intended use:	Biochemical kit

Supplier: Nippon Genetics Co., Ltd.
18F, Koraku Mori Bldg., 4-14 Koraku 1-Chome, Bunkyo-ku,
Tokyo, 112-0004, Japan
Phone Number: +81-3-3813-0961

2. CHEMICAL CHARACTERISATION

Component 1:
mP1 buffer: 1 piece(s)
No hazardous substances in concentrations to be declared.

Component 2:
mP2 buffer: 1 Piece (s)
Ingredients 0.1-1% N sodium hydroxide
(CAS-No. 01310-73-2);
1-2.5% sodium Dodecyl sulfate
(CAS-No. 00151-21-3)

Component 3:
mP3 buffer: 1 piece(s)
Ingredients 25-50% M Guanidinium chloride
(CAS-No.00050-01-1);
10-25% Acetic acid
(CAS-No. 00064-19-7)

Component 4:
mP4 buffer: 1 Piece (s)
Ingredients 25-50% M Guanidinium chloride
(CAS-No.00050-01-1)

Component 5:
mP5 buffer: 1 Piece (s)
No hazardous substances in concentrations to be declared.

Component 6:
mP6 buffer: 1 Piece (s)
No hazardous substances in concentrations to be declared.

Component 7:
RNase: 1 Piece (s)
No hazardous substances in concentrations to be declared.

3. HAZARDS IDENTIFICALTION

********** EMERGENCY OVERVIEW **********

Component 1, 5, 6, 7 – Occupational exposure presents little or no health hazard.

Component 2 - Warning! Irritant. Harmful if swallowed. May cause allergic skin reaction. Possible reproductive system hazard based on animal data.

Component 3, 4 - Danger! Corrosive to tissue. Harmful if swallowed. May cause allergic skin reaction.

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Potential Health Effects:

Eye: Can cause moderate irritation, tearing and reddening, but not likely to permanently injure eye tissue. Can cause severe irritation. Eye contact may result in corneal injury. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva. Temporary vision impairment (cloudy or blurred vision) is possible.

Skin: Can cause moderate skin irritation, defatting, and dermatitis. Not likely to cause permanent damage. May cause allergic skin reaction. Corrosive to skin tissue. Can cause chemical burns. Continued or prolonged contact may irritate the skin and cause a skin rash (dermatitis). Upon prolonged or repeated exposure, harmful if absorbed through the skin. May cause minor systemic damage.

Inhalation: Can cause minor respiratory irritation, dizziness, weakness, fatigue, nausea, and headache. Can be corrosive to the respiratory tract causing severe irritation and tissue damage. If liquid mists are breathed into the lungs, they may be rapidly absorbed through the lungs and injure specific target organs. No toxicity expected from inhalation.

Ingestion: Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort. Harmful if swallowed. May cause systemic poisoning. Corrosive to tissue. Can cause severe and permanent damage to mouth, throat, and stomach. Aspiration may lead to lung damage. Ingestion of this product may result in central nervous system effects including headache, sleepiness, dizziness, slurred speech and blurred vision. Harmful if swallowed. May cause systemic poisoning.

Chronic: No data on cancer. Contains a substance(s) that is a possible reproductive system hazard based on high dose tests with laboratory animals.

4. FIRST AID MEASURES

Eye: Flush eyes with plenty of water for at least 20 minutes retracting eyelids often. Tilt the head to prevent chemical from transferring to the uncontaminated eye. Remove contact lenses, clean before re-use. Get immediate medical attention.

Skin: Wash with soap and water. Remove contaminated clothing and launder immediately, and discard contaminated leather goods, and wash before re-use. Get medical attention immediately if irritation develops or persists.

Inhalation: Remove to fresh air. If breathing is difficult, have a trained individual administer oxygen. If not breathing, give artificial respiration and have a trained individual administer oxygen. Get medical attention immediately.

Ingestion: **Component 1, 5, 6 and 7 –** Give plenty of water, if conscious. If vomiting occurs naturally, wash mouth out. Be prepared to induce vomiting upon a physician's advice. Obtain medical attention if symptoms develop.
Component 2, 3 and 4 - Do not induce vomiting and seek medical attention immediately. Drink two glasses of water or milk to dilute. Provide medical care provider with this MSDS. Corrosive.

Note To Physician: Treat symptomatically.

5. FIRE FIGHTING MEASURE

Flash point :100℃.
Melting point / Melting range:＞183℃
Boiling point / Boiling range:183℃.
Upper Flammable Limit %: Not available.
Lower Flammable Limit %: Not available.

Autoignition Temperature Deg C: Not available.

Extinguishing Media: **Component 1, 5, 6 and 7 –** Use means appropriate for surrounding materials.
Component 2, 3 and 4 - Use alcohol resistant foam, carbon dioxide, dry chemical, or water spray when fighting fires. Water or foam may cause frothing if liquid is burning but it still may be a useful extinguishing agent

if carefully applied to the fire. Do not direct a water stream directly into the hot burning liquid. Use water spray/fog for cooling.

Firefighting Techniques/Equipment: Do not enter fire area without proper protection including self-contained breathing apparatus and full protective equipment. Fight fire from a safe distance and a protected location due to the potential of hazardous vapors and decomposition products.

Hazardous Combustion Products: Includes carbon dioxide, carbon monoxide, and dense smoke.

6. ACCIDENTAL RELEASE MEASURES

Accidental releases may be subject to special reporting requirements and other regulatory mandates. Refer to Section 8 for personal protection equipment recommendations.

Spill Cleanup: **Component 1, 5, 6 and 7 –** Absorb spill. Common absorbent materials should be effective. Deposit in appropriate containers for removal and disposal.
Component 2, 3 and 4 – Exposure to the spilled material may be irritating or harmful. Follow personal protective equipment recommendations found in Section VIII of this MSDS. Additional precautions may be necessary based on special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred. Also consider the expertise of employees in the area responding to the spill. Ventilate the contaminated area. Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section VIII at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation.

7. HANDLING AND STORAGE

Storage of some materials is regulated by federal, state, and/ or local laws.

Storage Pressure: Ambient
Handling Procedures: **Component 1, 5, 6 and 7 –** Keep closed or

covered when not in use.
Component 2, 3 and 4 – Harmful or irritating material. Avoid contacting and avoid breathing the material. Use only in a well ventilated area. Keep closed or covered when not in use.

Storage Procedures: Suitable for most general chemical storage areas.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Exposure Limits:

Component	OSHA PEL (ppm)	AGCIH TWA (ppm)
SODIUM DODECYL SULFATE	Not established.	Not established.
Component	OSHA PEL (ppm)	AGCIH TWA (ppm)
ACETIC ACID	10PPM	10PPM
GUANIDINE HCL	Not established.	Not established.

Engineering Controls: Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure.

Personal Protective Equipment:
Eye: An eye wash station must be available where this product is used. Wear chemical goggles.

Skin: Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work. Have a safety shower available.

Respiratory: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance/physical state: Liquid solution / suspension
Order: No odor.
Specific Gravity/Density: Not established.
Octanol/water Partition Coeff: Not established.
Volatiles: Not established.

Evaporation Rate: Not established.
Viscosity: Not established.

10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions.

Conditions to Avoid: Strong-oxidizing agents. High temperatures. Strong acids.
Hazardous Decomposition Products: None known.
Hazardous Polymerization: Hazardous polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

No toxic, infectious, corrosive material inside

Not applied to IATA DGR

Not determined

12. Ecological Information

Ecotoxicological Information: No ecological information available.
Environmental Fate (Degradation, Transformation, and Persistence): Bioconcentration is not expected to occur.

13. DISPOSAL CONSIDERATIONS

Regulatory Information: Not applicable.
Disposal Method: Clean up and dispose of waste in accordance with all federal, state, and or local environmental.

14. TRANSPORT INFORMATION

No toxic, infectious, corrosive material inside
Not applied to IATA DGR
Proper Shipping Name: Not Determined.
Subsidiary Hazards:

15. OTHER INFORMATION

HMIS Rating 0-4:

FIRE: Not determined.
HEALTH: Not determined.
REACTIVITY: Not determined.

Abbreviations
N/A - Data is not applicable or not available
SARA - Superfund and Reauthorization Act
HMIS - Hazard Material Information System
WHMIS - Workplace Hazard Materials Information System
NTP - National Toxicology Program
OSHA - Occupational Health and Safety Administration
IARC - International Agency for Research on Cancer
PROP 65 - California Safe Drinking Water and Toxic Enforcement Act of 1986
EINECS - European Inventory of Existing Commercial Chemical Substances