



## **MATERIAL SAFETY DATA SHEET**

FastGene® 2X PG ProbeMix w/enhancer

Cat. No FG-MM001PG, FG-MM002PG, FG-MM003PG

### **Kit Components:**

FG-MM001PG	FG 2X PG Probe mix (220 µl); 2 vials/kit; FG 10X enhancer (50 µl)	25 rxn
FG-MM002PG	FG 2X PG Probe mix (2200 µl); 3 vials/kit; FG 10X enhancer (500 µl)	250 rxn
FG-MM003PG	FG 2X PG Probe mix (4400 µl); 5 vials/kit; FG 10X enhancer (1ml)	500 rxn

## **FG 2X PG Probe Mix**

### **1. Identification of the substance and of the company**

#### **1.1 Product identifier**

Trade Name: FG 2X PG Probe Mix

Relevant identified uses of the substance or mixture and uses advised against:  
No further relevant information available.

Application of the substance / the preparation: Laboratory chemicals

#### **1.2 Company Details**

Manufacturer / Supplier:

Nippon Genetics Europe GmbH  
Mariaweilerstraße 28-30  
52349 Dueren

Telephone +49 (0) 2421 554960  
Email: info@nippongenetics.eu

#### **1.3 Emergency Details**

In case of emergency: Contact a local physician.

Phone: +49 (0) 2421/554960

Within the business hours: Monday to Friday, 8 a.m. to 5 p.m.

For Hazardous Materials [or Dangerous Goods] Incident

Spill, Leak, Fire, Exposure, or Accident

Call CHEMTREC Day or Night

Within USA and Canada: 1-800-424-9300

Outside USA and Canada: +1 703-527-3887 (collect calls accepted)



## 2. Hazards identification

### 2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008:



GHS08 health hazard  
STOT SE 2H371 May cause damage to the central nervous system. Route of exposure:  
Oral.



GHS07  
Acute Tox. 4H302 Harmful if swallowed.

### 2.2 Label elements

Labeling according to Regulation (EC) No 1272/2008:

The product is classified and labeled according to the CLP regulation.

Hazard pictograms:



GHS07



GHS08

**Signal word:** Warning

**Hazard-determining components of labeling:**

tetramethylammonium chloride

**Hazard statements:**

H302 Harmful if swallowed.

H371 May cause damage to the central nervous system. Route of exposure: Oral.

**Precautionary statements:**

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P260 Do not breathe dust / fume / gas / mist / vapors / spray.

P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P301/P312 IF SWALLOWED: Call a POISON CENTER / doctor if you feel unwell.

P405 Store locked up.

P50 Dispose of contents / container in accordance with local / regional / national / international regulations.

### 2.3 Other hazards

Results of PBT and vPvB assessment:

PBT: Not applicable.

vPvB: Not applicable.



## 3. Composition/information on ingredients

### 3.1 Chemical characterization: Mixtures

Description: Mixture of substances listed below with nonhazardous additions.

#### Dangerous components:

CAS: 75-57-0 tetramethylammonium chloride  $\geq 0.25$ - $\leq 5\%$

EINECS: 200-880-8  Acute Tox. 2, H300; Acute Tox. 3, H311



STOT SE 1, H370



Aquatic Chronic 2, H411



Skin Irrit. 2, H315

Additional information: For the wording of the listed hazard phrases refer to section 16.

## 4. First aid measures

### 4.1 Description of first aid measures

General information:

Take affected persons out into the fresh air. Do not leave affected persons unattended.

After inhalation:

Supply fresh air; consult doctor in case of complaints.

After skin contact:

Immediately wash with water and soap and rinse thoroughly. Seek medical treatment.

After eye contact:

Rinse opened eye for several minutes under running water. Call a doctor immediately.

After swallowing:

Call a doctor immediately.

Most important symptoms and effects, both acute and delayed:

No further relevant information available.

Indication of any immediate medical attention and special treatment needed:

No further relevant information available.

## 5. Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing agents:

CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

For safety reasons unsuitable extinguishing agents: Water with full jet.

### 5.2 Special hazards arising from the substance or mixture

Formation of toxic gases is possible during heating or in case of fire.

### 5.3 Advice for firefighters

Protective equipment:

Mouth respiratory protective device.

Do not inhale explosion gases or combustion gases.



## **6. Accidental release measures**

### **6.1 Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation.

Wear protective clothing.

### **6.2 Environmental precautions**

Do not allow product to reach sewage system or any water course.

### **6.3 Methods and material for containment and cleaning up:**

Ensure adequate ventilation.

Absorb liquid components with liquid-binding material.

### **6.4 Reference to other sections:**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

## **7. Handling and storage**

### **7.1 Precautions for safe handling:**

Ensure good ventilation/exhaustion at the workplace.

Store in cool, dry place in tightly closed receptacles.

Information about fire - and explosion protection: Keep ignition sources away - Do not smoke.

### **7.2 Conditions for safe storage, including any incompatibilities:**

Storage:

Requirements to be met by storerooms and receptacles:

Store only in the original receptacle.

Information about storage in one common storage facility:

Store away from oxidising agents.

Store away from foodstuffs.

Further information about storage conditions:

Keep container tightly sealed.

### **7.3 Specific end use (s):**

No further relevant information available.

## **8. Exposure controls/personal protection**

Additional information about design of technical facilities: No further data; see item 7.

### **8.1 Control parameters:**

Ingredients with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.



## 8.2 Exposure controls:

Personal protective equipment:

General protective and hygienic measures:

The usual precautionary measures are to be adhered to when handling chemicals.

Immediately remove all soiled and contaminated clothing.

Do not inhale gases / fumes / aerosols.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Respiratory protection:

Not necessary if room is well-ventilated.

Protection of hands: Protective gloves

Material of gloves:

Nitrile rubber, NBR

Recommended thickness of the material: 0.35 mm

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.

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:

Tightly sealed goggles

## 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

General Information:

Appearance:

Form: Fluid

Colour: Clear

Odour: Characteristic

Odour threshold: Not determined.

pH-value: 8.3

Change in condition:

Melting point/freezing point: Undetermined.

Initial boiling point and boiling range: Undetermined.

Flash point: Not applicable.

Flammability (solid, gas): Not applicable.

Ignition temperature:

Decomposition temperature: Not determined.

Auto-ignition temperature: Product is not selfigniting.

Explosive properties: Product does not present an explosion hazard.

Explosion limits:

Lower: Not determined.

Upper: Not determined.

Vapour pressure: Not applicable.

Density: Not determined.

Relative density: Not determined.

Vapour density: Not determined.



Evaporation rate:	Not determined.
Solubility in / Miscibility with water:	Soluble.
Partition coefficient: n-octanol/water:	Not determined.
Viscosity:	
Dynamic:	Not applicable.
Kinematic:	Not applicable.

## 9.2 Other information:

No further relevant information available.

# 10. Stability and reactivity

## 10.1 Description of stability and reactivity

Reactivity:

No further relevant information available.

Chemical stability:

Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.

Possibility of hazardous reactions:

No dangerous reactions known.

Conditions to avoid:

No further relevant information available.

Incompatible materials:

No further relevant information available.

Hazardous decomposition products:

Carbon monoxide and carbon dioxide

# 11. Toxicological information

## 11.1 Information on toxicological effects

Acute toxicity:	Harmful if swallowed.
Primary irritant effect:	
Skin corrosion/irritation:	Based on available data, the classification criteria are not met.
Serious eye damage/irritation:	Based on available data, the classification criteria are not met.
Respiratory or skin sensitisation:	Based on available data, the classification criteria are not met.
CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):	
Germ cell mutagenicity:	Based on available data, the classification criteria are not met.
Carcinogenicity:	Based on available data, the classification criteria are not met.
Reproductive toxicity:	Based on available data, the classification criteria are not met.
STOT-single exposure:	May cause damage to the central nervous system. Route of exposure: Oral.
STOT-repeated exposure:	Based on available data, the classification criteria are not met.
Aspiration hazard:	Based on available data, the classification criteria are not met.



## **12. Ecological information**

### **12.1 Description of ecological information**

Toxicity:

Aquatic toxicity: No further relevant information available.

Persistence and degradability: No further relevant information available.

Bioaccumulative potential: No further relevant information available.

Mobility in soil: No further relevant information available.

Additional 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.

Results of PBT and vPvB assessment:

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects: No further relevant information available.

## **13. Disposal considerations**

### **13.1 Waste treatment methods:**

European waste catalogue:

Dispose of contents/container in accordance with local/regional/national/international regulations.

Uncleaned packaging:

Recommendation:

Disposal must be made according to official regulations.

## **14. Transport information**

### **14.1 Description of transport information**

UN-Number

ADR, ADN, IMDG, IATA Void

UN proper shipping name:

ADR, ADN, IMDG, IATA Void

Transport hazard class(es):

ADR, ADN, IMDG, IATA Class: Void

Packing group:

ADR, IMDG, IATA Void

Environmental hazards:

Marine pollutant: No

Special precautions for user: Not applicable.

Transport in bulk according to

Annex II of the Marpol and the IBC Code Not applicable.

UN „Model Regulation“: Void



## **15. Regulatory information**

### **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:**

Directive 2012/18/EU

Named dangerous substances - ANNEX I None of the ingredients is listed.

REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3

### **15.2 Chemical safety assessment:**

A Chemical Safety Assessment has not been carried out.

## **16. Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Relevant phrases:

H300	Fatal if swallowed.
H311	Toxic in contact with skin.
H315	Causes skin irritation.
H370	Causes damage to organs.
H411	Toxic to aquatic life with long lasting effects.

Training hints:

Employees who use the product have to be trained on risks for health, hygiene, use of individual protection, accident preventive actions, rescue actions, etc.

Department issuing SDS:

Nippon Genetics Europe GmbH  
Mariaweilerstraße 28-30  
52349 Düren

Telephone +49 (0) 2421 554960

Email: [info@nippongenetics.eu](mailto:info@nippongenetics.eu)

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 2: Acute toxicity – Category 2

Acute Tox. 4: Acute toxicity – Category 4

Acute Tox. 3: Acute toxicity – Category 3

Skin Irrit. 2: Skin corrosion/irritation – Category 2

STOT SE 1: Specific target organ toxicity (single exposure) – Category 1

STOT SE 2: Specific target organ toxicity (single exposure) – Category 2

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2





## **FG 10X Enhancer**

### **1. Identification of the substance and of the company**

#### **1.1 Product identifier**

Trade Name: FG 10X Enhancer

Relevant identified uses of the substance or mixture and uses advised against:  
No further relevant information available.

Application of the substance / the preparation: Laboratory chemicals

#### **1.2 Company Details**

Manufacturer / Supplier:

Nippon Genetics Europe GmbH  
Mariaweilerstraße 28-30  
52349 Düren

Telephone +49 (0) 2421 554960

Email: info@nippongenetics.eu

#### **1.3 Emergency Details**

In case of emergency: Contact a local physician.

Phone: +49 (0) 2421/554960

Within the business hours: Monday to Friday, 8 a.m. to 5 p.m.

For Hazardous Materials [or Dangerous Goods] Incident

Spill, Leak, Fire, Exposure, or Accident

Call CHEMTREC Day or Night

Within USA and Canada: 1-800-424-9300

Outside USA and Canada: +1 703-527-3887 (collect calls accepted)

### **2. Hazards identification**

#### **2.1 Classification of the substance or mixture**

Classification according to Regulation (EC) No 1272/2008:

The product is not classified, according to the CLP regulation.

#### **2.2 Label elements**

Labeling according to

Regulation (EC) No 1272/2008: Void

Hazard pictograms: Void

Signal word: Void

Hazard statement: Void

#### **2.3 Other hazards**

Results of PBT and vPvB assessment:

PBT: Not applicable.

vPvB: Not applicable.



## **3. Composition/information on ingredients**

### **3.1 Chemical characterization: Mixtures**

**Description:** Mixture of substances listed below with nonhazardous additions.

**Dangerous components:** Void

**Additional information:** For the wording of the listed hazard phrases refer to section 16.

## **4. First aid measures**

### **4.1 Description of first aid measures**

**General information:**

Take affected persons out into the fresh air. Do not leave affected persons unattended.

**After inhalation:**

Supply fresh air; consult doctor in case of complaints.

**After skin contact:**

Immediately wash with water and soap and rinse thoroughly. Seek medical treatment.

**After eye contact:**

Rinse opened eye for several minutes under running water. Call a doctor immediately.

**After swallowing:**

Call a doctor immediately.

**Most important symptoms and effects, both acute and delayed:**

No further relevant information available.

**Indication of any immediate medical attention and special treatment needed:**

No further relevant information available.

## **5. Firefighting measures**

### **5.1 Extinguishing media**

**Suitable extinguishing agents:**

CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

For safety reasons unsuitable extinguishing agents: Water with full jet.

### **5.2 Special hazards arising from the substance or mixture**

Formation of toxic gases is possible during heating or in case of fire.

### **5.3 Advice for firefighters**

**Protective equipment:**

Mouth respiratory protective device.

Do not inhale explosion gases or combustion gases.



## **6. Accidental release measures**

### **6.1 Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation.  
Wear protective clothing.

### **6.2 Environmental precautions**

Do not allow product to reach sewage system or any water course.

### **6.3 Methods and material for containment and cleaning up:**

Ensure adequate ventilation.  
Absorb liquid components with liquid-binding material.

### **6.4 Reference to other sections:**

See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

## **7. Handling and storage**

### **7.1 Precautions for safe handling:**

Ensure good ventilation/exhaustion at the workplace.  
Store in cool, dry place in tightly closed receptacles.  
Information about fire - and explosion protection: Keep ignition sources away - Do not smoke.

### **7.2 Conditions for safe storage, including any incompatibilities:**

Storage:  
Requirements to be met by storerooms and receptacles:  
Store only in the original receptacle.  
Information about storage in one common storage facility:  
Store away from oxidising agents.  
Store away from foodstuffs.  
Further information about storage conditions:  
Keep container tightly sealed.

### **7.3 Specific end use (s):**

No further relevant information available.

## **8. Exposure controls/personal protection**

Additional information about design of technical facilities: No further data; see item 7.

### **8.1 Control parameters:**

Ingredients with limit values that require monitoring at the workplace:  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.



## 8.2 Exposure controls:

Personal protective equipment:

General protective and hygienic measures:

The usual precautionary measures are to be adhered to when handling chemicals.

Immediately remove all soiled and contaminated clothing.

Do not inhale gases / fumes / aerosols.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Respiratory protection:

Not necessary if room is well-ventilated.

Protection of hands: Protective gloves

Material of gloves:

Nitrile rubber, NBR

Recommended thickness of the material: 0.35 mm

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.

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:

Tightly sealed goggles

## 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

General Information:

Appearance:

Form: Fluid

Colour: Colourless

Odour: Mild

Odour threshold: Not determined.

pH-value: 7-8

Change in condition:

Melting point/freezing point: Undetermined.

Initial boiling point and boiling range: Undetermined.

Flash point: Not applicable.

Flammability (solid, gas): Not applicable.

Ignition temperature:

Decomposition temperature: Not determined.

Auto-ignition temperature: Product is not selfigniting.

Explosive properties: Product does not present an explosion hazard.

Explosion limits:

Lower: Not determined.

Upper: Not determined.

Vapour pressure: Not applicable.

Density: Not determined.

Relative density: Not determined.

Vapour density: Not determined.



Evaporation rate:	Not determined.
Solubility in / Miscibility with water:	Soluble.
Partition coefficient: n-octanol/water:	Not determined.
Viscosity:	
Dynamic:	Not applicable.
Kinematic:	Not applicable.

## 9.2 Other information:

No further relevant information available.

# 10. Stability and reactivity

## 10.1 Description of stability and reactivity

Reactivity:

No further relevant information available.

Chemical stability:

Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.

Possibility of hazardous reactions:

No dangerous reactions known.

Conditions to avoid:

No further relevant information available.

Incompatible materials:

No further relevant information available.

Hazardous decomposition products:

Carbon monoxide and carbon dioxide

# 11. Toxicological information

## 11.1 Information on toxicological effects

Acute toxicity: Based on available data, the classification criteria are not met.

Primary irritant effect:

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Serious eye damage/irritation: Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation: Based on available data, the classification criteria are not met.

CMR effects

(carcinogenicity, mutagenicity and toxicity for reproduction):

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity: Based on available data, the classification criteria are not met.

STOT-single exposure: May cause damage to the central nervous system. Route of exposure: Oral.

STOT-repeated exposure: Based on available data, the classification criteria are not met.

Aspiration hazard: Based on available data, the classification criteria are not met.



## **12. Ecological information**

### **12.1 Description of ecological information**

Toxicity:

Aquatic toxicity: No further relevant information available.

Persistence and degradability: No further relevant information available.

Bioaccumulative potential: No further relevant information available.

Mobility in soil: No further relevant information available.

Additional 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.

Results of PBT and vPvB assessment:

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects: No further relevant information available.

## **13. Disposal considerations**

### **13.1 Waste treatment methods:**

European waste catalogue:

Dispose of contents/container in accordance with local/regional/national/international regulations.

Uncleaned packaging:

Recommendation:

Disposal must be made according to official regulations.

## **14. Transport information**

### **14.1 Description of transport information**

UN-Number

ADR, ADN, IMDG, IATA Void

UN proper shipping name:

ADR, ADN, IMDG, IATA Void

Transport hazard class(es):

ADR, ADN, IMDG, IATA Class: Void

Packing group:

ADR, IMDG, IATA Void

Environmental hazards:

Marine pollutant: No

Special precautions for user: Not applicable.

Transport in bulk according to

Annex II of the Marpol and the IBC Code Not applicable.

UN „Model Regulation“: Void



## **15. Regulatory information**

### **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:**

Directive 2012/18/EU

Named dangerous substances - ANNEX I None of the ingredients is listed.

REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3

### **15.2 Chemical safety assessment:**

A Chemical Safety Assessment has not been carried out.

## **16. Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Training hints:

Employees who use the product have to be trained on risks for health, hygiene, use of individual protection, accident preventive actions, rescue actions, etc.

Department issuing SDS:

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Mariaweilerstraße 28-30

52349 Düren

Telephone +49 (0) 2421 554960

Email: [info@nippongenetics.eu](mailto:info@nippongenetics.eu)

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PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative