



FastGene Restriction Enzyme Hae III

Cat. No.	Product	Content
FG-HaeIII	FastGene Restriction Enzyme Hae III	3500 Units

1. Identity of the substance and the manufacturer

1.1. Name of the substances or preparations

FastGene Restriction Enzyme Hae III

1.2. Recommended use of the chemical and restrictions on use

Laboratory research use only.

1.3. Name and address of the manufacturer

NIPPON Genetics EUROPE GmbH
Mariaweilerstraße 28 a
52349 Düren
Germany

1.4. Emergency telephone contact

+49 2421/554960

2. Hazards identification

2.1 Classification of Hazards and dangerousness

No relevant classification

2.2 Warning article including prevention methods



2.2.1 Pictorial symbol

No information available

2.2.2 Category

No information available

2.2.3 Hazards and dangerousness

No information available

2.2.4 Prevention methods

2.2.4.1 Prevention

No information available

2.2.4.2 Action

No information available

2.2.4.3 Store

No information available

2.2.4.4 Discard

No information available

2.3 Other hazards and dangerousness (NFPA) not included in classification

2.3.1 Health

1

2.3.2 Fire

1

2.3.3 Reactivity

0



3. Composition/information on ingredients

Material name	Usual name	CAS No.	Amount (%)
Glycerin	Glycerol	56-81-5	40 ~ 60

4. First-aid measures

4.1 Eye contact

Take medical action immediately.

Immediately rinse skin and eyes thoroughly with plenty of running water for at least 20 minutes.

4.2 Skin contact

Take medical action immediately.

Immediately rinse skin and eyes thoroughly with plenty of running water for at least 20 minutes.

Remove contaminated clothes and shoes and isolate contaminated area.

Completely wash clothes and shoes before reuse.

4.3 Inhalation

Remove to fresh air.

CPR when there is no breathing

Provide Oxygen when breathing is difficult.

Take medical action immediately.

4.4 Ingestion

Do not provide any food for unconscious person.

4.5 Note to physicians

Take protective action according to the material.

Do not inject adrenalin.



5. Firefighting measures

5.1 Proper (improper) fire extinguishing agents

Small fire: dry sand, dry chemical, alcohol-resistant foam, water spray, regular foam, CO₂ (suitable extinguishing agent).

Large fires: water spray / mist, regular foam (suitable extinguishing agent).

High pressure water (improper extinguishing agent).

5.2 Specific hazards from chemical compounds

Can be ignited by heat, spark, flame.

Container may explode on heating.

Some can ride, but not easily ignite.

May cause irritation and poisonous gas in case of fire Inhalation of the substance may be harmful.

Some fluids may cause dizziness, suffocation-inducing vapors.

5.3 Protective equipment and precautions for fire fighting

Glycerin: No information available.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Micro particles can ignite fire or explosion therefore remove all the sources of fire.

Stop leaking if it is not dangerous.

Give attention to materials and conditions that should be avoided.

Do not enter the space without proper respirator or respirator until proper air (oxygen concentration 18 ~ 23.5%) is available.

6.2 Environmental precautions

Prevent entry into waterways, sewers, basements, and confined spaces.

6.3 Containment and cleaning up

In case of small leakage, flush contaminated areas with large amounts of water.



In case of small leakage, absorb with sand and non-combustible material and place in container.

In case of large leakage, make a ditch away from liquid spills.

Put spills into a clean, dry container with clean shovel, loosely closed, then transfer container from leak area.

In case of powder leakage, cover with plastic sheet to prevent spread and keep dry.

7. Handling and storage

7.1 Precautions for safe handling

Note the substances and conditions to avoid.

Wash thoroughly after handling.

Note the high temperature.

In case of material leakage, reduce the oxygen concentration in the air and cause suffocation in an enclosed space, so be careful not to spill.

Check the oxygen concentration before entering the place because there is a risk of loss of consciousness or death due to oxygen deficiency at high concentration in the air.

Keep this temperature below 20°C because this material evaporates slowly and reaches hazardous concentrations.

Do not spray because it will evaporate faster if sprayed.

7.2 Conditions for safe storage

Keep it tightly closed.

Store in a cool, dry place.

8. Exposure controls/personal protection

8.1 Exposure standard of chemical compound, biological exposure standard

8.1.1 Domestic regulations

Glycerin: TWA - 10 mg/m³



8.1.2 ACGIH regulation

Glycerin: TWA - 10 mg/m³

8.1.3 Biological release regulation

Glycerin: No information applicable

8.2 Individual protection equipment

8.2.1 Respiratory protection

Use respiratory protection equipment certified by Korea occupational safety and health agency in a release of gas/liquid according to their chemical physical properties.

Use proper filter or half-circled respiratory protection cartridge equipment if the concentration of release material is lower than 100mg/m³.

Use proper filter or loose-fitting respiratory protection cartridge equipment such as hood/helmet shape motor operated equipment or continuous flow protection mask if the concentration of release material is lower than 250mg/m³.

Use proper filter or full-face cartridge or motor operated half-circled equipment or half circled continuous flow air supply respiratory protection equipment if the concentration of release material is lower than 500mg/m³.

Use proper filter or full faced respiratory protection cartridge equipment or hood/helmet type, pressurized mask if the concentration of release material is lower than 10000mg/m³.

Use proper filter or auto air supply (SCBA) equipment or pressurized auto air supply (SCBA) respiratory protection equipment if the concentration of release material is lower than 100000mg/m³.

8.2.2 Eye protection

Use chemical protection glasses and safety glasses.

Install eyewash and emergency shower near work area.

8.2.3 Hand protection

Wear suitable chemical resistant gloves.

8.2.4 Body protection

Wear suitable chemical resistant clothing.



9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance - State	liquid
Appearance - Color	Dark color to yellow color
Odor	Dull
Odor Threshold	No information available
pH	Neutral
Melting point/freezing point	20 °C
Early boiling point and range	171 °C
Flashing point	160 °C ((c.c.))
Evaporation rate	No information available
Evaporation rate (solid/liquid)	Liquid
Maximum / minimum evaporation or explosion range	19 / 2.7%
Steam pressure	0.0025 mmHg (50°C)
Solubility	water solubility: 1000 g/L at 25 °C solvent solubility: alcohol, ethyl acetate, ether insolubility, benzene, chloroform, carbon tetrachloride, carbon disulfide, oil ether, oil
Vapor density	3.1 (air=1)
Specific gravity	1.2613 (water=1)
n-octanol/ distribution coefficient	No information available
Self-ignition temperature	370 °C
Disassemble temperature	290 °C
Viscosity	954 cP (at 25 °C)
Molecular weight	92.09

10. Stability and reactivity

10.1 Chemical stability and possibility of hazardous reactions

Glycerin: No information available



10.2 Situation to avoid

Glycerin: No information available

10.3 Materials to avoid

Glycerin: No information available

10.4 Harmful material produce by degradation

Glycerin: No information available

11. Toxicological information

11.1 Information on likely routes of exposure

Glycerin:

Irritation, difficult to breathe, area, vomit, diarrhea, headache, dizziness, Sleep disorder, kidney problem, paralyzed.

Can absorb body by suction.

Can be absorbed by suction and extinguisher.

Through skin, digestive system, can absorb body by inhalation of aerosol.

Able to absorb body by suction of steam.

Can be absorbed by inhalation, skin and digestive system.

11.2 Health maleficence information

11.2.1 Acute poison

11.2.1.1 Oral

Glycerin: LD50 27200 mg/kg Rat
rat/LD50/12600mg/kg(IUCLID))

11.2.1.2 Ingestion

Glycerin: LD50 > 10000 mg/kg Rat

11.2.1.3 Inhalation

No information available



11.2.2 Skin corrosion or irritant agent

Glycerin: No irritation on skin

11.2.3 Serious eye damage or irritation

Glycerin: No irritation on eyes

11.2.4 Respiratory organ hypersensitiveness

Glycerin: No information available

11.2.5 Skin hypersensitiveness

Glycerin: No information available

11.2.6 Carcinogenic

11.2.6.1 Occupational safety and health acts

Glycerin: No information available

11.2.6.2 Employment announcement

Glycerin: No information available

11.2.6.3 IARC

Glycerin: No information available

11.2.6.4 OSHA

Glycerin: No information available

11.2.6.5 ACGIH

Glycerin: No information available

11.2.6.6 NTP

Glycerin: No information available

11.2.6.7 EU CLP

Glycerin: No information available

11.2.7 Germ cell mutagenicity

Glycerin: Many color mammal red blood cell/negative.

11.2.8 Reproduction toxicity test

Glycerin: No information available

**11.2.9 Special target poison (1 time exposurer)**

Glycerin: No information available

11.2.10 Special target poison (long exposurer)

Glycerin: rat(inhale): 1-4mg/l epiglottis epithelium

11.2.11 Absorption injurious

Glycerin: No information available

12. Ecological information

12.1 Ecotoxicity

12.1.1 FishGlycerin: LC50 5000 mg/l 24 h *Carassius auratus***12.1.2 Crustacean**Glycerin: EC50 > 10000 mg/l 24 h *Daphnia magna* (*Daphnia magna* EC50(24HR)10000mg/L (US EPA ECOTOX); *Daphnia magna* EC50(24HR) >10000 mg/L (EUIUCLID))**12.1.3 Algae**

(LC50(96hr) 77712.039 mg/L)

12.2 Residual fungicide and resolvability

12.2.1 Residual fungicide

Glycerin: No information available

12.2.2 Resolvability

Glycerin: No information available

12.3 Life enrichment

12.3.1 Enrichment

Glycerin: No expected life enrichment



12.3.2 Biodegradability

Glycerin:

63 % 14-day Fast biodegradability (OECD SIDS),

93 % biodegradability in 30 days (OECD TG 301D) (IUCLID))

12.4 Soil

Glycerin: No information available

12.5 Other harmful influences

Glycerin: Environmental summary - No information on toxicity on aquatic organisms

13. Disposal considerations

13.1 Disposal method

No information available

13.2 Precautions for disposal

Dispose container and content according to the water control act.

14. Transport information

14.1 IATA

Glycerin: UN classification information for hazardous substances for transport is not available.

14.1.1 Propriety shipping name

Glycerin: No dangerous good in sense of these transport regulations

14.1.2 Hazard class

Glycerin: No information available

14.1.3 Subsidiary class



Glycerin: No information available

14.1.4 Packing group

Glycerin: No information available

14.1.5 UN-No

Glycerin: No information available

14.1.6 Environmental hazards

Glycerin: No information available

15. Regulatory information

15.1 Regulations of occupational safety and health act

Glycerin: Exposure standard materials

15.2 Regulations of toxic chemicals regulation act

Glycerin: No information available

15.3 Regulations of safety control of dangerous substances act

Glycerin: 4th class The third kind Petroleum(Receptivity) 4000 L

15.4 Regulations of waste control act

Glycerin: Designated waste

15.5 Regulations of other domestic and international act

15.5.1 Domestic act

15.5.1.1 Persistent organic pollutants control ac

Glycerin: No information applicable

15.5.2 Foreign act

15.5.2.1 American supervision information



Glycerin: No information applicable

15.5.2.2 CERCLA

Glycerin: No information applicable

15.5.2.3 EPCRA 302

Glycerin: No information applicable

15.5.2.4 EPCRA 304

Glycerin: No information applicable

15.5.2.5 EPCRA 313

Glycerin: No information applicable

15.5.2.6 American supervision information (Rotterdam agreement material)

Glycerin: No information applicable

15.5.2.7 American supervision information (Stockholm agreement material)

Glycerin: No information applicable

15.5.2.8 American supervision information (Montreal protocol material)

Glycerin: No information applicable

15.5.2.9 EU Classification information (Confirmed classification results)

Glycerin: No information applicable

15.5.2.10 EU Classification information (Danger expression)

Glycerin: No information applicable

15.5.2.11 EU Classification information (Safety expression)

Glycerin: No information applicable



16. Other information

This information is based on our present knowledge. Its objective is to describe the product from the point of view of safety, and no warranty is made other than its characteristics. This information does not absolve the user in any circumstances from observing other Legislative, Regulatory and Administrative requirements applying to the product, and to safety, hygiene and the well-being of the people in the workplace.



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