

Material Safety Data Sheet



1. DETAILS OF THE CHEMICAL AND SUPPLIER

Product name	FastGene Scriptase II cDNA 5x ReadyMix OdT
Product code	LS65
Recommended use of the chemical and restrictions on use	
Recommended use	Research and development only
Restrictions on use	Research and development only
Details of the supplier	
Company name	Nippon Genetics Europs
Address	Binsfelderstr. 77 52351 Düren Germany
Immergence contact number	+49 2421 554960

2. HAZARDS AND DANGEROUSNESS

Classification of Hazard and dangerousness	No relevant classification
warning article including prevention methods	
Pictorial symbol	No information available
Category	No information available
Hazard and dangerousness	No information available
Prevention methods	
Prevention	No information available
Action	No information available
Store	No information available
Discard	No information available
Other hazard and dangerousness (NFPA) not included in classification	
Health	1
Fire	1
Reactivity	0

3. CONSTITUENT TITLE AND AMOUNT

Material name	Usual name	CAS No.	Amount (%)
Glycerin	GLYCEROL	56-81-5	15 ~ 30

4. FIRST AID MEASURES

Eye contact	Take medical action immediately Immediately rinse skin and eyes thoroughly with plenty of running water for at least 20 minutes.
Skin contact	Take medical action immediately Remove contaminated clothes and shoes and isolate contaminated area Immediately rinse skin and eyes thoroughly with plenty of running water for at least 20 minutes.
Inhalation	Completely wash clothes and shoes before reuse Remove to fresh air CPR when there is no breathing Provide Oxygen when breathing is difficult Take medical action immediately
Ingestion	Do not provide any food for unconscious person
Note to physicians	Take protective action according to the material Do not inject adrenalin

5. FIRE FIGHTING MEASURES

Proper (improper) fire extinguishing agents	Small fire: dry sand, dry chemical, alcohol-resistant foam, water spray, regular foam, CO ₂ (suitable extinguishing agent) Use Alcohol foam, carbon dioxide or water spray to extinguish fire with this product Large fires: water spray/mist, regular foam (suitable extinguishing agent) High pressure water (improper extinguishing agent)
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 cause dizziness, suffocation-inducing vapors
Protective equipment and precautions for fire fighting Glycerin	No information available

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	Micro particles can ignite fire or explosion therefore remove all the sources of fire. Separate combustibles from leaked material Stop leak if it is not dangerous Do not enter the space without proper respirator until proper air (oxygen concentration 18 ~ 23,5%) is available Give attention to materials and conditions that should be avoided
Environmental precautions Containment and cleaning up	Prevent entry into waterways, sewers, basements and confined spaces In case of small leakage, flush contaminated area with large amount 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**Precautions for safe handling**

Note the substances and conditions to avoid

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

Wash thoroughly after handling

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

Note the high temperature

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

Conditions for safe storage

Keep it tightly closed

Store in a cool, dry place

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION**Exposure standard of chemical compound, biological exposure standard****Domestic regulations**

Glycerin

TWA - 10 mg/m³

ACGIH regulation

Glycerin

TWA - 10 mg/m³

Biological release regulation

Glycerin

No information applicable

Individual protection equipments**Respiratory system protection**

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

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

Use proper filter or loose-fitting respiratory protection cartridge equipments such as hood/helmet shape motor operated equipments 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 equipments or half circled continuous flow air supply respiratory protection equipments if the concentration of release material is lower than 500mg/m³

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

Eye protection

Use chemical protection glasses and safety glasses

Install eyewash and emergency shower near work area

Hand protection

Wear suitable chemical resistant gloves

Body protection

Wear suitable chemical resistant clothing

9. CHEMICOPHYSICAL PROPERTIES

Appearance	
State	Liquid
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 (at 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

Chemical stability and possibility of hazardous reactions	
Glycerin	No information available
Situation to avoid	
Glycerin	No information available
Materials to avoid	
Glycerin	No information available
Harmful material produce by degradation	
Glycerin	No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	
Glycerin	irritation, difficult to breath, area, vomit, diarrhea, headache, dizziness, dyssomnia, kidney problem, paralyzed Can absorb into the body by suction Can be absorbed by suction and extinguisher Through skin, digestive system, can absorb body by inhalation of aerosol Able to absorb into the body by suction of steam Can be absorbed by inhalation, skin and digestive system

Health maleficence information

Acute poison

Oral

Glycerin

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

Dermal

Glycerin

LD50 > 10000 mg/kg Rat

Inhalation

Glycerin

No information available

Skin corrosivity or irritant agent

Glycerin

No irritation on skin

Serious eye damage or irritation

Glycerin

No irritation on eyes

Respiratory organ hypersensitiveness

Glycerin

No information available

Skin hypersensitiveness

Glycerin

No information available

Carcinogenic

Occupational safety and health acts

Glycerin

No information available

Employment announcement

Glycerin

No information available

IARC

Glycerin

No information available

OSHA

Glycerin

No information available

ACGIH

Glycerin

No information available

NTP

Glycerin

No information available

EU CLP

Glycerin

No information available

Germ cell mutagenicity

Glycerin

Many color mammal red blood cell/negative

Reproduction toxicity test

Glycerin

No information available

Special target poison (1 time exposer)

Glycerin

No information available

Special target poison (long exposer)

Glycerin

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

Absorption injurious

Glycerin

No information available

12. ECOLOGICAL INFORMATION**Ecotoxicity****Fish**

Glycerin	LC50 5000 mg/l 24 hr <i>Carassius auratus</i>
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Crustacean

Glycerin	EC50 > 10000 mg/l 24 hr <i>Daphnia magna</i> (<i>Daphnia magna</i> EC50(24HR) 10000mg/L(US EPA ECOTOX); <i>Daphnia magna</i> EC50(24HR) >10000 mg/L (EU IUCLID))
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Algae

Glycerin	(LC50(96hr) 77712.039 mg/L)
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Residual fungicide and resolvability**Residual fungicide**

Glycerin	No information available
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Resolvability

Glycerin	No information available
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Life enrichment**Enrichment**

Glycerin	No expected life enrichment
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Biodegradability

Glycerin	63 (%) 14 day Fast biodegradability (OECD SIDS), 93% biodegradability in 30 days (OECD TG 301D) (IUCLID))
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Soil

Glycerin	No information available
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Other harmful influences

Glycerin	Environmental summary : No information on toxicity on aquatic organisms
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13. DISPOSAL CONSIDERATIONS**Waste treatment method**

Glycerin	No information available
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Waste that require attention for disposal

Glycerin	Dispose container and content according to the waste control act
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14. TRANSPORT INFORMATION**IATA****Propriety shipping name**

Glycerin	No dangerous good in sense of these transport regulations
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Hazard class

Glycerin	No information available
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Subsidiary class

Glycerin	No information available
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Packing group

Glycerin	No information available
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UN-No

Glycerin	No information available
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Environmental hazards

Glycerin	No information available
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15. CONTINGENCY ACTION IN A SPILL

Regulations of occupational safety and health act	No information available
Glycerin	Exposure standard materials
Regulations of toxic chemicals regulation act	
Glycerin	No information available
Regulations of safety control of dangerous substances act	
Glycerin	4th class The third kind Petroleum(Receptivity) 4000 L
Regulations of waste control act	
Glycerin	Designated waste
Regulations of other domestic and international act	
Domestic act	
Persistent organic pollutants control act	
Glycerin	No information applicable
Foreign act	
American supervision information	
Glycerin	No information applicable
CERCLA	
Glycerin	No information applicable
EPCRA 302	
Glycerin	No information applicable
EPCRA 304	
Glycerin	No information applicable
EPCRA 313	
Glycerin	No information applicable
American supervision information (Rotterdam agreement material)	
Glycerin	No information applicable
American supervision information (Stockholm agreement material)	
Glycerin	No information applicable
American supervision information (Montreal protocol material)	
Glycerin	No information applicable
EU Classification information (Confirmed classification results)	
Glycerin	No information applicable
EU Classification information (Danger expression)	
Glycerin	No information applicable
EU Classification information (Safety expression)	
Glycerin	No information applicable

16. OTHER INFORMATION

Prepared by

IUCLID (oral)
SIDS (oral)
SIDS (skin corrosive or irritant)
SIDS (severe eye damage or irritation)
NLM (Germ Cell Mutagenesis)
IUCLID (specific target organ toxicity (repeated exposure))
OECD SIDS (fish)
EU IUCLID (Crustaceans)
OECD SIDS (Crustaceans)
US EPA ECOTOX (Crustacea)
ECOSAR (agar)
OECD SIDS (Enrichment)
IUCLDE (biodegradable)
OECD TG 301C (biodegradable)
OECD TG 301D (biodegradable)

The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since NIPPON Genetics EUROPE GmbH cannot control the actual methods, volumes, or conditions of use, the company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein.

Questions about the information found on this MSDS should be directed to info@nippongenetics.com.

End of Material Safety Data Sheet