



MATERIAL SAFETY DATA SHEET

According to EU Directive 91/155 EC

Reviewed on: 15/10/08

1. Chemical product and company identification

Product details

Trade name: Klenow fragment (supplied with 10 x reaction buffer)

Catalogue number:

GC-009-0100	100 units
GC-009-0250	250 units
GC-009-500	500 units
GC-009-1000	1000 units
GC-009-5000	5000 units

Manufacturer / Supplier:

Semiramis Genetics Limited
GeneCraft Products
Manchester Science Park
Unit 57 Greenheys
Pencroft Way, Hulme
Manchester M15 6JJ
Tel.: +44 (0) 161 226 3571 / Fax: +44 (0) 161 868 0708

Further information obtainable from: Details as above

2. Composition / Information on ingredients

Chemical characterisation

Description: Mixture of substances listed below with non-hazardous additions

Dangerous components: None

Composition	%	CAS #
Glycerol	50%	56-81-5
Tris-HCl	<1%	1185-53-1
Sodium chloride (NaCl)	<1%	7647-14-5
EDTA	<1%	6381-92-6
Dithiothreitol (DTT)	<1%	3483-12-3
Bovine serum albumin	<1%	9048-46-8

10 x reaction buffer

Composition	%	CAS #
MgCl ₂	<1%	7786-30-3
Tris-HCl	<1%	1185-53-1
Dithioerythritol (DTE)	<1%	6892-68-8

3. Hazards identification

Hazard description: Not applicable

Information concerning particular hazards for human and environment: Not applicable

Classification system: The classification is according to the latest editions of the EU-lists and extended by company and literature data.

4. First-aid measures

General information: No special measures required

After inhalation: Supply fresh air; consult doctor in case of complaints

After skin contact: Generally the product does not irritate the skin. Wash with soap and copious amounts of water.

After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist consult doctor.

After swallowing: Wash mouth out with water. If symptoms persist consult doctor.

5. Fire fighting measures

Suitable extinguishing media: CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Protective equipment: No special measures required.

6. Accidental release measures

Person-related safety precautions: Not required.

Measures for environmental protection: Dilute with plenty of water. Do not allow to enter sewers/surface or ground water.

Additional information: No dangerous substances are released.

7. Handling and storage

Handling: No special measures are required for safe handling of this product.

Storage: No special storage requirements for this product. No special measures for fire and explosive protection required. Store at -20°C.

8. Exposure controls / Personal protection

General protective and hygienic measures: The usual precautionary measures for handling chemicals should be followed.

Breathing equipment: Not required.

Protection of hands: The glove material has to be impermeable and resistant to the product/

the substance / the preparation. Due to missing tests no recommendation to the glove material can be given for the product/the preparation/the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

Material of gloves: 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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Eye protection: Goggles recommended during refilling.

9. Physical and chemical properties

Appearance: Solution, colourless, nearly odourless

Concentration: 5 units/ μl , pH 7.5

Melting point/Melting range: Undetermined

Boiling point/Boiling range: Undetermined

Flash point: Not applicable

Self-igniting: Product is not self igniting

Danger of explosion: Product does not present an explosion hazard.

Density: Not determined

Solubility in/Miscibility with water: Fully miscible

10. Stability and reactivity

Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

Dangerous reactions: No dangerous reactions known.

Dangerous products of decomposition: No dangerous decomposition products known.

11. Toxicological information

Primary irritation effect

On the skin: No irritation effect

On the eye: No irritation effect

Sensitization: No sensitizing effect

12. Ecological Information

General note: Water hazard class 1 (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.

13. Disposal Considerations

Recommendation: Smaller quantities can be disposed of with household waste.

Uncleaned packagings recommendation: Disposal must be made according to official regulations.

Recommended cleansing agent: Water, if necessary with cleansing agents.

14. Transport Information

Land transport: Product does not belong to a hazard class of any international agreements on the transport and packaging of dangerous goods.

Maritime transport: This product is not a marine pollutant.

Air transport: Product does not belong to any hazard classification.

15. Regulatory Information

Labelling according to EU Guidelines:

General safety regulations should always be observed when handling chemicals.

This product is not subject to identification regulations under EU Directives and the Ordinance on Hazardous Materials.

16. Other Information

All information, and suggestions appearing herein concerning our product are based upon tests and data believed to be reliable. However, it is the user's responsibility to determine the suitability of this information for adoption of necessary safety precautions. We reserve the right to revise Material Safety Data Sheets as new information becomes available.