SAFETY DATA SHEET

KAPA RiboErase DNase

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name : KAPA RiboErase DNase

Product code : KE8483, KE8484, KE8485

Product description : Formulated DNasel Enzyme

Product type : Liquid.

Other means of identification : None.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses
Analytical reagent.

1.3 Details of the supplier of the safety data sheet

Kapa Biosystems
2nd Floor, Salt Works
271 Victoria Road
Salt River, Cape Town
7925, South Africa

e-mail address of person responsible for this SDS : info@kapabiosystems.com

National contact

Ingrid Brand

1.4 Emergency telephone number

Telephone number : Phone: +27 (0)21 448 8200
Fax:+27 (0)21 448 6503

Hours of operation : 08.00 to 16.00 GMT+2

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]
Not classified.

Classification according to Directive 1999/45/EC [DPD]

The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification : Not classified.

Physical/chemical hazards : Not applicable.

Human health hazards : Not applicable.

Environmental hazards Not applicable.

See Section 16 for the full text of the R phrases or H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Signal word : No signal word.

SECTION 2: Hazards identification

Hazard statements : No known significant effects or critical hazards.

Precautionary statements

General : Not applicable.

Prevention : Not applicable.

Response : Not applicable.

Storage : Not applicable.

Disposal : Not applicable.

Special packaging requirements

Containers to be fitted with child-resistant fastenings : Not applicable.

Tactile warning of danger : Not applicable.

2.3 Other hazards

Other hazards which do not result in classification : No data available.

SECTION 3: Composition/information on ingredients

Substance/mixture : Mixture

Product/ingredient name	Identifiers	%	Classification		Type
			67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	
glycerol	EC: 200-289-5 CAS: 56-81-5	50-75	Not classified. **See Section 16 for the full text of the R-phrases declared above.**	Not classified. **See Section 16 for the full text of the H statements declared above.**	[2]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit
[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Ingestion : Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

SECTION 4: First aid measures

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

5.3 Advice for firefighters

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

SECTION 6: Accidental release measures

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also Section 8 for additional information on hygiene measures.

6.2 Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor.

6.4 Reference to other sections : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8).

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

7.3 Specific end use(s)

Recommendations : No data available.

Industrial sector specific solutions : No data available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

Occupational exposure limits

SECTION 8: Exposure controls/personal protection

Product/ingredient name	Exposure limit values
Europe	
glycerol	**ACGIH TLV (United States, 2/2010).** TWA: 10 mg/m³ 8 hour(s). Form: Inhalable fraction
Austria	
No exposure limit value known.	
Belgium	
glycerol	**Lijst Grenswaarden / Valeurs Limites (Belgium, 6/2009).** TWA: 10 mg/m³ 8 hour(s). Form: mist
Bulgaria	
No exposure limit value known.	
Croatia	
No exposure limit value known.	
Czech Republic	
glycerol	**MZCR PEL/NPK-P (Czech Republic, 3/2010).** STEL: 15 mg/m³ 15 minute(s). TWA: 10 mg/m³ 8 hour(s). TWA: 2.44 ppm 8 hour(s). STEL: 3.66 ppm 15 minute(s).
Denmark	
No exposure limit value known.	
Estonia	
glycerol	**Sotsiaalminister (Estonia, 10/2007).** TWA: 10 mg/m³ 8 hour(s).
Finland	
glycerol	**Työterveyslaitos, Sosiaali- ja terveysministeriö (Finland, 7/2009).** TWA: 20 mg/m³ 8 hour(s).
France	
glycerol	**Ministère du travail (France, 10/2007). Notes: indicative exposure limits as published in Circulars between 1982 and 1996.** TWA: 10 mg/m³ 8 hour(s). Form: aerosol
Germany	
No exposure limit value known.	
Greece	
glycerol	**PD 90/1999 (Greece, 8/2007).** TWA: 10 mg/m³ 8 hour(s).
Hungary	
No exposure limit value known.	
Ireland	
glycerol	**NAOSH (Ireland, 5/2010).** OELV-8hr: 10 mg/m³ 8 hour(s). Form: mist
Italy	
glycerol	**ACGIH TLV (United States, 2/2010).** TWA: 10 mg/m³ 8 hour(s). Form: Inhalable fraction
Latvia	
No exposure limit value known.	
Lithuania	
No exposure limit value known.	
Netherlands	

SECTION 8: Exposure controls/personal protection

No exposure limit value known.	
Norway	
No exposure limit value known.	
Poland	
glycerol	**Rozporządzenie Ministra Pracy i Polityki Społecznej (Poland, 8/2010).** TWA: 10 mg/m³ 8 hour(s). Form: Aerosol
Portugal	
glycerol	**Instituto Português da Qualidade (Portugal, 3/2007).** TWA: 10 mg/m³ 8 hour(s). Form: mist
Romania	
No exposure limit value known.	
Slovakia	
No exposure limit value known.	
Slovenia	
No exposure limit value known.	
Spain	
glycerol	**INSHT (Spain, 5/2010).** TWA: 10 mg/m³ 8 hour(s). Form: mist
Sweden	
No exposure limit value known.	
Switzerland	
glycerol	**SUVA (Switzerland, 1/2009).** STEL: 100 mg/m³ 15 minute(s). Form: inhalable fraction TWA: 50 mg/m³ 8 hour(s). Form: inhalable fraction
Turkey	
No exposure limit value known.	
United Kingdom (UK)	
glycerol	**EH40/2005 WELs (United Kingdom (UK), 8/2007).** TWA: 10 mg/m³ 8 hour(s). Form: Mist

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

Derived effect levels

No DELs available.

Predicted effect concentrations

No PECs available.

8.2 Exposure controls

Appropriate engineering controls : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Individual protection measures

SECTION 8: Exposure controls/personal protection

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state : Liquid.

Color : Colorless.

Odor : Odorless.

Odor threshold : No data available.

pH : No data available.

Melting point/freezing point : No data available.

Initial boiling point and boiling range : No data available.

Flash point : Product does not sustain combustion.

Evaporation rate : No data available.

Flammability (solid, gas) : No data available.

Burning time : Not applicable.

Burning rate : Not applicable.

Upper/lower flammability or explosive limits : No data available.

Vapor pressure : No data available.

Vapor density : No data available.

Relative density : No data available.

Solubility(ies) : Easily soluble in the following materials: cold water and hot water.

Partition coefficient: n-octanol/water : No data available.

Auto-ignition temperature : No data available.

Decomposition temperature : No data available.

Viscosity : No data available.

SECTION 9: Physical and chemical properties

Explosive properties : No data available.

Oxidizing properties : No data available.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity : No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability : The product is stable.

10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid : No specific data.

10.5 Incompatible materials : No specific data.

10.6 Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
glycerol	LD50 Oral	Rat	12600 mg/kg	-

Irritation/Corrosion

Conclusion/Summary : No specific data.

Sensitization

Conclusion/Summary : No specific data.

Mutagenicity

Conclusion/Summary : No specific data.

Carcinogenicity

Conclusion/Summary : No specific data.

Reproductive toxicity

Conclusion/Summary : No specific data.

Teratogenicity

Conclusion/Summary : No specific data.

Information on the likely routes of exposure : No specific data.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

SECTION 11: Toxicological information

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : None identified.

Potential delayed effects : None identified.

Long term exposure

Potential immediate effects : None identified.

Potential delayed effects : None identified.

Potential chronic health effects

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
glycerol	Acute LC50 54 ml/L Fresh water	Fish - Oncorhynchus mykiss - 0.9 g	96 hours

12.2 Persistence and degradability

Conclusion/Summary : No specific data.

12.3 Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
glycerol	-1.76	-	low

12.4 Mobility in soil

Soil/water partition coefficient (K_{OC}) : No specific data.

Mobility : No specific data.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB : Not applicable.

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Hazardous waste : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.

Packaging

Methods of disposal : The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN/ADNR	IMDG	IATA
14.1 UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-	-
14.3 Transport hazard class(es)	-	-	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.
14.6 Special precautions for user	No data available.	No data available.	No data available.	No data available.
Additional information	-	-	-	-

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : No data available.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorization

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Other EU regulations

Europe inventory	: All components are listed or exempted.
Black List Chemicals	: Not listed
Priority List Chemicals	: Not listed
Integrated pollution prevention and control list (IPPC) - Air	: Not listed
Integrated pollution prevention and control list (IPPC) - Water	: Not listed

National regulations

Austria

Limitation of the use of organic solvents : Permitted.

Denmark

MAL-code : 00-1

Protection based on MAL : **According to the regulations on work involving coded products, the following stipulations apply to the use of personal protective equipment:**

General: Gloves must be worn for all work that may result in soiling. Apron/coveralls/protective clothing must be worn when soiling is so great that regular work clothes do not adequately protect skin against contact with the product. A face shield must be worn in work involving spattering if a full mask is not required. In this case, other recommended use of eye protection is not required.

In all spraying operations in which there is return spray, the following must be worn: respiratory protection and arm protectors/apron/coveralls/protective clothing as appropriate or as instructed.

MAL-code: 00-1
Application: When spraying in existing* spray booths, if the operator is outside the spray zone.

- Arm protectors must be worn.

During all spraying where atomization occurs in cabins or spray booths where the operator is inside the spray zone and during spraying outside a closed facility, cabin or booth.

- Full mask with combined filter, coveralls and hood must be worn.

SECTION 15: Regulatory information

Drying: Items for drying/drying ovens that are temporarily placed on such things as rack trolleys, etc. must be equipped with a mechanical exhaust system to prevent fumes from wet items from passing through workers' inhalation zone.

Polishing: When polishing treated surfaces, a mask with dust filter must be worn. When machine grinding, eye protection must be worn. Work gloves must always be worn.

Caution The regulations contain other stipulations in addition to the above.

*See Regulations.

List of undesirable substances : Not listed

Reinforced medical surveillance : Act of July 11, 1977 determining the list of activities which require reinforced medical surveillance: not applicable

Germany

Hazard class for water : 1 Appendix No. 4

Technical instruction on air quality control : TA-Luft Number 5.2.5: 50.6%

AOX : The product does not contain organically bound halogens which could lead to an AOX value in waste water.

Italy

D.Lgs. 152/06 : Not classified.

Netherlands

Water Discharge Policy (ABM) : Slightly harmful to aquatic organisms. Abatement effort: B

Switzerland

VOC content : Liberated.

International regulations

Chemical Weapons Convention List Schedule I Chemicals : Not listed

Chemical Weapons Convention List Schedule II Chemicals : Not listed

Chemical Weapons Convention List Schedule III Chemicals : Not listed

15.2 Chemical Safety Assessment : This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

SECTION 16: Other information

Classification	Justification
Not classified.	

Full text of abbreviated H statements : Not applicable.

Full text of classifications [CLP/GHS] : Not applicable.

Full text of abbreviated R phrases : Not applicable.

Full text of classifications [DSD/DPD] : Not applicable.

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Date of issue/ Date of revision : 19/11/2014.

Date of previous issue : No previous issue..

Version : 1

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.