GE Healthcare

SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II - Europe

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

1.1 Product identifier

Product name Capture buffer type 1; part of 'illustra™ CyScribe™

GFX™ Purification Kit, 25 purifications'

Catalogue Number

27-9606-01 Component Number

Not available **Product description**

Product type Liquid. Other means of identification Not available.

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

9606C

Research and Development Analytical reagent. Analytical chemistry.

1.3 Details of the supplier of the safety data sheet

GE Healthcare UK Ltd Hours of operation Supplier Amersham Place 08.30 - 17.00

Little Chalfont Buckinghamshire HP7 9NA England

+44 0870 606 1921

Person who prepared the MSDS: msdslifesciences@ge.com

1.4 Emergency telephone number

+49 0761 4543 0 GE Healthcare Bio-Sciences GmbH Europe

Munzinger Strasse 5 D-79111 Freiburg Germany / Deutschland

National advisory body/Poison Centre

http://www.who.int/ipcs/poisons/centre/directory/euro/en/ Europe

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

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]

Acute Tox. 4. H302 Skin Irrit, 2, H315 Eye Irrit. 2, H319

Ingredients of unknown toxicity

Ingredients of unknown ecotoxicity Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 51.5%



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

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification Xn; R22 Xi; R36/38

Human health hazards Harmful if swallowed. Irritating to eyes and skin.

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

Hazard pictograms



Signal word Warning

Hazard statements

Harmful if swallowed.

Causes skin irritation.

Causes serious eye irritation.

Precautionary statements

Prevention Wear protective gloves. Wear eye or face protection. Do not eat, drink or smoke when using this product.

Response IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. IF IN EYES: Rinse cautiously with

water for several minutes.

Storage Not applicable.

Disposal Not applicable.

Hazardous ingredients guanidinium chloride

Supplemental label elements 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 Not available.

in classification

SECTION 3: Composition/information on ingredients

Substance/mixture Mixture

			Classification		
Product/ingredient name	Identifiers	%	67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	Туре
guanidinium chloride	EC: 200-002-3 CAS: 50-01-1 Index: 607-148-00-0	50-75	Xn; R22 Xi; R36/38	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319	[1]
			See Section 16 for the full text of the R-phrases declared above.	See Section 16 for the full text of the H statements declared above.	

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 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
- $\hbox{[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII}\\$

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



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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. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if

breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to

rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly

before reuse.

Ingestion Wash out mouth with water. Remove dentures if any. 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. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight

clothing such as a collar, tie, belt or waistband.

Protection of first-aidersNo action shall be taken involving any personal risk or without suitable training. It may be dangerous to

the person providing aid to give mouth-to-mouth resuscitation.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eve contact Causes serious eye irritation.

Inhalation Exposure to decomposition products may cause a health hazard. Serious effects may be delayed

following exposure.

Skin contact Causes skin irritation.

Ingestion Harmful if swallowed. Irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

Eye contact Adverse symptoms may include the following:

pain or irritation watering redness

Inhalation No specific data.

Skin contact Adverse symptoms may include the following:

irritation

redness

Ingestion No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person

may need to be kept under medical surveillance for 48 hours.

Specific treatments No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing mediaUse 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

In a fire or if heated, a pressure increase will occur and the container may burst.

mixture

Hazardous combustion products Decomposition products may include the following materials:

carbon dioxide carbon monoxide nitrogen oxides halogenated compounds metal oxide/oxides



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5.3 Advice for firefighters

Special precautions for firefighters

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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 spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

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 the information in "For non-emergency personnel".

6.2 Environmental precautions

Avoid dispersal of spilt 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. Approach the release from upwind. 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 (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

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). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

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 unlabelled containers. Use appropriate containment to avoid environmental contamination.

7.3 Specific end use(s)

Recommendations Research and Development Analytical reagent. Analytical chemistry.

Industrial sector specific solutions Not 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

No exposure limit value known.



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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

No special ventilation requirements. Good general ventilation should be sufficient to control worker Appropriate engineering controls

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

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking Hygiene measures

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.

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, gases or dusts.

Skin protection

Eye/face protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times Hand protection

when handling chemical products if a risk assessment indicates this is necessary.

Personal protective equipment for the body should be selected based on the task being performed and **Body protection**

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. Colourless. Colour Odour Not available. Odour threshold Not available Not available. Melting point/freezing point Not available. Not available. Initial boiling point and boiling

range

[Product does not sustain combustion.] Flash point

Evaporation rate

Flammability (solid, gas) Non-flammable in the presence of the following materials or conditions: open flames, sparks and static

discharge, heat, shocks and mechanical impacts, oxidizing materials, reducing materials, combustible

materials, organic materials, metals, acids, alkalis and moisture.

Burning time Not applicable. Not applicable. **Burning rate** Upper/lower flammability or

explosive limits

Not available.

Not available. Vapour pressure Not available. Vapour density Not available. Relative density



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Solubility(ies)

Partition coefficient: n-

octanol/water

Not available.

Not available Auto-ignition temperature Not available. **Decomposition temperature** Not available Viscosity

Explosive properties

Non-explosive in the presence of the following materials or conditions: open flames, sparks and static discharge, heat, shocks and mechanical impacts, oxidizing materials, reducing materials, combustible

materials, organic materials, metals, acids, alkalis and moisture.

Easily soluble in the following materials: cold water and hot water.

Not available. Oxidising properties

9.2 Other information No additional information.

SECTION 10: Stability and reactivity

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

The product is stable. 10.2 Chemical stability

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. No specific data. 10.5 Incompatible materials

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
guanidinium chloride	LD50 Oral	Rat	475 mg/kg	-

Conclusion/Summary

Not available.

Acute toxicity estimates

Route	ATE value
Oral	950 mg/kg

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
guanidinium chloride	Eyes - Moderate irritant Skin - Severe irritant	Rabbit Rabbit	-	-	-

Conclusion/Summary

Not available

Sensitiser

Conclusion/Summary

Not available.

Mutagenicity

Conclusion/Summary

Not available.

Carcinogenicity

Conclusion/Summary

Not available.

Reproductive toxicity Conclusion/Summary

Not available.

Teratogenicity

Not available. Conclusion/Summary

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)



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Not available.

Aspiration hazard

Not available.

Information on the likely routes of Not available.

exposure

Potential acute health effects

Inhalation Exposure to decomposition products may cause a health hazard. Serious effects may be delayed

following exposure.

Harmful if swallowed. Irritating to mouth, throat and stomach. Ingestion

Causes skin irritation. Skin contact Causes serious eye irritation. Eye contact

Symptoms related to the physical, chemical and toxicological characteristics

No specific data. Inhalation Ingestion No specific data.

Adverse symptoms may include the following: Skin contact

irritation redness

Adverse symptoms may include the following: Eye contact

> pain or irritation watering redness

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

Short term exposure

Potential immediate effects Not available.

Not available. Potential delayed effects

Long term exposure

Not available. Potential immediate effects

Not available. Potential delayed effects

Potential chronic health effects

Not available.

Conclusion/Summary Not available.

General No known significant effects or critical hazards. No known significant effects or critical hazards. Carcinogenicity

Mutagenicity No known significant effects or critical hazards. No known significant effects or critical hazards. **Teratogenicity Developmental effects** No known significant effects or critical hazards. No known significant effects or critical hazards. Fertility effects

Other information Not available.

SECTION 12: Ecological information

12.1 Toxicity

Not available. Conclusion/Summary

12.2 Persistence and degradability

Not available. Conclusion/Summary

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
guanidinium chloride	-	-	Not readily

12.3 Bioaccumulative potential



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Product/ingredient name	LogPow	BCF	Potential
guanidinium chloride	<1.7	-	low

12.4 Mobility in soil

Soil/water partition coefficient (Koc Not available.

)

Mobility Not available.

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 minimised 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 The classification of the product may meet the criteria for a hazardous waste.

Packaging

Methods of disposal The generation of waste should be avoided or minimised 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. Care should be taken when handling

emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt 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	Not available.	Not available.	Not available.	Not available.
Additional information	-	-	-	-

14.7 Transport in bulk according to Annex II of MARPOL

Not available.

73/78 and the IBC Code



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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 authorisation

Substances of very high concern

None of the components are listed.

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

and articles

Other EU regulations

Europe inventory All components are listed or exempted.

Not listed **Black List Chemicals** Not listed **Priority List Chemicals** Integrated pollution prevention Not listed

and control list (IPPC) - Air

Integrated pollution prevention and control list (IPPC) - Water

Not listed

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

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

Assessment

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]

Classification	Justification
Acute Tox. 4, H302	Calculation method
Skin Irrit. 2, H315	Calculation method
Eye Irrit. 2, H319	Calculation method

H302 Harmful if swallowed. Full text of abbreviated H H315 Causes skin irritation. statements H319 Causes serious eve irritation.

ACUTE TOXICITY: ORAL - Category 4 Full text of classifications Acute Tox. 4, H302 [CLP/GHS]

Eye Irrit. 2, H319 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2

Skin Irrit. 2, H315 SKIN CORROSION/IRRITATION - Category 2

R22- Harmful if swallowed. Full text of abbreviated R phrases

R36/38- Irritating to eyes and skin.



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Full text of classifications Xn - Harmful **[DSD/DPD]** Xi - Irritant

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Date of previous issueNo previous validation

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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.



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