GE Healthcare

SAFETY DATA SHEET

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

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

1.1 Product identifier

Product name Oligo(dT)-Cellulose Spun Columns part of 'illustra™

mRNA Purification Kit, 2 purifications'

Catalogue Number 27-9258-01

Component Number 279258A

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

Analytical chemistry. Analytical reagent. Research and Development

1.3 Details of the supplier of the safety data sheet

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

Little Chalfont Buckinghamshire HP7 9NA

England

+44 0870 606 1921

 $\textbf{Person who prepared the MSDS}: \ msdslifesciences@ge.com$

1.4 Emergency telephone number

Switzerland GE Healthcare Bio-Sciences GmbH

Industriestr. 30 CH-8112 Otelfingen

0848 8028 12

National advisory body/Poison Centre

Switzerland Centre Suisse d'Information Toxicologique

(Swiss Toxicological Information Centre)

Freiestrasse 16 CH-8032 Zurich

Telephone: +41 44 251 66 66

Emergency telephone: +41 44 251 51 51 (145 from within Switzerland and Liechtenstein)

Fax: +41 44 252 88 33 F-mail: info@toxi ch Web site: http://www.toxi.ch

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



Article Number 27925801-1



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]

Skin Sens. 1, H317

Ingredients of unknown toxicity

Ingredients of unknown ecotoxicity

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

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

Classification R43

Human health hazards May cause sensitisation by skin contact.

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 May cause an allergic skin reaction.

Precautionary statements

Prevention Wear protective gloves. Avoid breathing vapour. Contaminated work clothing should not be allowed out

of the workplace.

Response IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical attention.

Storage Not applicable.

Disposal Not applicable.

Hazardous ingredients reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-

3-one [EC no. 220-239-6] (3:1)

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



Article Number 27925801-1



			<u>Classification</u>		
Product/ingredient name	Identifiers	%	67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	Туре
reaction mass of: 5-chloro- 2-methyl-4-isothiazolin-3- one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3- one [EC no. 220-239-6] (3:1)	CAS: 55965-84-9 Index: 613-167-00-5	0.0015- 0.06	T; R23/24/25 C; R34 R43 N; R50/53	Acute Tox. 3, H301 Acute Tox. 3, H311 Acute Tox. 3, H331 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	[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
- [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

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for Eve contact

and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if

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,

Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated Skin contact

clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure.

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 adverse health effects persist or are severe. 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.

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to Protection of first-aiders

the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly

with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

No known significant effects or critical hazards. Eye contact No known significant effects or critical hazards. Inhalation

Skin contact May cause an allergic skin reaction.

No known significant effects or critical hazards. Ingestion

Over-exposure signs/symptoms

Eve contact No specific data. Inhalation No specific data.

Skin contact Adverse symptoms may include the following:

irritation

redness

No specific data. Ingestion



Article Number 27925801-1

Page: 3/10

Version 4

4.3 Indication of any immediate medical attention and special treatment needed

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

ingested or inhaled.

Specific treatments No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

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

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.

No specific data. Hazardous combustion products

5.3 Advice for firefighters

Special precautions 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

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding For non-emergency personnel

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.

If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on For emergency responders

suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform 6.2 Environmental precautions

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

Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Small spill

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.

Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent Large spill

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

Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin Protective measures

sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. 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.



Article Number

27925801-1 Validation date 23 September 2011



Page: 4/10

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 Analytical chemistry. Analytical reagent. Research and Development

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.

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

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. Contaminated work clothing should not be allowed out of the workplace. 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, gases 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 protectionUse 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.



Article Number 27925801-1



Page: 5/10

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Liquid. [(White suspension in closed column.)] Physical state solution: Colourless. / Suspension: White. Colour

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

ranae

Flash point

[Product does not sustain combustion.]

Evaporation rate Not available.

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.

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

explosive limits

Not available. Vapour pressure Not available. Vapour density Not available. Relative density Solubility(ies) Not available. Not available. Partition coefficient: n-

octanol/water

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

Non-explosive in the presence of the following materials or conditions: open flames, sparks and static **Explosive properties**

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

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

Oxidising properties Not 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.

No specific data 10.4 Conditions to avoid 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.



Article Number 27925801-1

Page: 6/10

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
reaction mass of: 5-chloro-2- methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H- isothiazol-3-one [EC no. 220-239-6] (3:1)	LD50 Oral	Rat	53 mg/kg	-

Conclusion/Summary Not available.

Acute toxicity estimates

Not available.

Irritation/Corrosion

Not available. Conclusion/Summary

Sensitiser

Not available. Conclusion/Summary

Mutagenicity

Conclusion/Summary Not available.

Carcinogenicity

Not available. Conclusion/Summary

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)

Not available.

Aspiration hazard

Not available.

 $\textbf{Information on the likely routes of} \quad \textbf{Routes of entry anticipated:} \textbf{Dermal, Inhalation.}$

Routes of entry not anticipated:Oral.

Potential acute health effects

Inhalation No known significant effects or critical hazards. No known significant effects or critical hazards. Ingestion

May cause an allergic skin reaction. Skin contact

No known significant effects or critical hazards. Eye contact

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation No specific data. Ingestion No specific data.

Skin contact Adverse symptoms may include the following:

irritation

redness

No specific data. Eye contact

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

Short term exposure

Potential immediate effects Not available.

Potential delayed effects Not available.

Long term exposure



Article Number 27925801-1

Validation date 23 September 2011

Page: 7/10

Potential immediate effects Not available.

Potential delayed effects Not available.

Potential chronic health effects

Not available.

Conclusion/Summary Not available.

General Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

CarcinogenicityNo known significant effects or critical hazards.MutagenicityNo known significant effects or critical hazards.TeratogenicityNo known significant effects or critical hazards.Developmental effectsNo known significant effects or critical hazards.Fertility effectsNo known significant effects or critical hazards.

Other information Not available.

SECTION 12: Ecological information

12.1 Toxicity

Conclusion/Summary Not available.

12.2 Persistence and degradability

Conclusion/Summary Not available.

12.3 Bioaccumulative potential

Not available.

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.



Article Number 27925801-1



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

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 and articles

Not applicable.

Other EU regulations

Not determined. **Europe inventory**

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

and control list (IPPC) - Air

Integrated pollution prevention Not listed

and control list (IPPC) - Water

National regulations

Liberated. VOC content

International regulations

Chemical Weapons Convention List Schedule I Chemicals

Not listed

Chemical Weapons Convention List Schedule II Chemicals

Not listed



Article Number 27925801-1

Page: 9/10

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]

Classification	Justification
Skin Sens. 1, H317	Calculation method

Full text of abbreviated H H301 Toxic if swallowed.

statements

H311 Toxic in contact with skin.

H314 Causes severe skin burns and eye damage. H317 May cause an allergic skin reaction. Causes serious eye damage. H318

H331 Toxic if inhaled Very toxic to aquatic life. H400

H410 Very toxic to aquatic life with long lasting effects.

Full text of classifications

[CLP/GHS]

Acute Tox. 3, H301 ACUTE TOXICITY: ORAL - Category 3 ACUTE TOXICITY: SKIN - Category 3 Acute Tox. 3, H311 Acute Tox. 3, H331 ACUTE TOXICITY: INHALATION - Category 3 Aquatic Acute 1, H400 AQUATIC TOXICITY (ACUTE) - Category 1 Aquatic Chronic 1, H410 AQUATIC TOXICITY (CHRONIC) - Category 1 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1 Eve Dam. 1. H318 Skin Corr. 1B, H314 SKIN CORROSION/IRRITATION - Category 1B SKIN SENSITIZATION - Category 1 Skin Sens. 1, H317

Full text of abbreviated R phrases

R23/24/25- Toxic by inhalation, in contact with skin and if swallowed.

R34- Causes burns.

R43- May cause sensitisation by skin contact.

R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic

environment.

Full text of classifications

Date of previous issue

[DSD/DPD]

T - Toxic C - Corrosive

N - Dangerous for the environment

23 September 2011 Date of printing Date of issue/ Date of revision 23 September 2011 No previous validation

Version

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.



Article Number 27925801-1

Page: 10/10