

# SAFETY DATA SHEET

## Q, CM, DEAE, S Ceramic HyperD® F chromatography sorbents

### Section 1. Identification

<b>GHS product identifier</b>	: Q, CM, DEAE, S Ceramic HyperD F chromatography sorbents
<b>Other means of identification</b>	: Chromatographic (sorbent) solid suspended in a carrier solution (20 % v/v ethanol and 1.2 mM EDTA in 1M sodium chloride aqueous solution).
<b>Part number</b>	: 20066-xxx, 20050-xxx, 20067-xxx, 20062-xxx
<b>Product description</b>	: Ion Exchange chromatography sorbents in carrier solution.
<b>Product type</b>	: Mixture. Suspended solid in carrier solution.

#### Identified uses

Purification of biomolecules by ion exchange chromatography.

<b>Supplier</b>	: Pall BioSeptra, Division of Pall France 48 Avenue des Genottes F-95800 Cergy St Christophe +33 (0)1 34 20 78 00 www.pall.com
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<b>e-mail address of person responsible for this SDS</b>	: reach_coordinator@pall.com
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<b>Emergency telephone number (with hours of operation)</b>	: CHEMTREC, U.S. : 1-800-424-9300 International: +1-703-527-3887 24 hours/day, 7 days/week
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<b>COUNTRY OF ORIGIN:</b>	: France
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### Section 2. Hazards identification

<b>OSHA/HCS status</b>	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
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<b>Classification of the substance or mixture</b>	: FLAMMABLE LIQUIDS - Category 3 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
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#### GHS label elements

##### Hazard pictograms



<b>Signal word</b>	: Warning
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<b>Hazard statements</b>	: Flammable liquid and vapor. Causes serious eye irritation.
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#### Precautionary statements

<b>Prevention</b>	: Wear protective gloves. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Wash hands thoroughly after handling.
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## Section 2. Hazards identification

**Response** : IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

**Storage** : Store in a well-ventilated place. Keep cool.

**Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Hazards not otherwise classified** : None known.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

**Other means of identification** : Chromatographic (sorbent) solid suspended in a carrier solution (20 % v/v ethanol and 1.2 mM EDTA in 1M sodium chloride aqueous solution).

### CAS number/other identifiers

**CAS number** : Not applicable.

**Product code** : 20066-xxx, 20050-xxx, 20067-xxx, 20062-xxx

Composition of material as supplied:

Container Size	25ml	100ml	1L	5L	10L	20L
% Sorbent	77	87	73	87	87	87
% Additional Liquid Carrier	23	13	27	13	13	13

Ingredient name	% w/w	CAS number
Carrier solution:		
Ethyl Alcohol	16	64-17-5
1.2 mM EDTA in 1M sodium chloride aqueous solution (Sodium Chloride)	84	6381-92-6 7647-14-5
Chromatography sorbent:		
Ceramic solid	100	

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

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.

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

## Section 4. First aid measures

### Description of necessary 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 adverse health effects persist or are severe.

**Skin contact** : Flush contaminated skin with plenty of water. Get medical attention if symptoms occur.

**Ingestion** : Unlikely route of exposure. Wash out mouth with water. Get medical attention if adverse health effects persist or are severe.

### Most important symptoms/effects, acute and delayed



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# SAFETY DATA SHEET

Page: 3/11

## Section 4. First aid measures

### Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : 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 known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

### Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet or water-based fire extinguishers.

**Specific hazards arising from the chemical** : Flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.

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

**Special protective actions for fire-fighters** : Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

**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.



## Section 6. Accidental release measures

### 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. Shut off all ignition sources. No flares, smoking or flames in hazard area. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized 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".

- 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).

### Methods and materials for containment and cleaning up

- Small spill** : Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Avoid dust generation. Using a vacuum with HEPA filter will reduce dust dispersal. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

### 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. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. 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. See also Section 8 for additional information on hygiene measures.

- 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. Store between 2°C (36°F) and 30°C (86°F).

**Section 8. Exposure controls/personal protection****Control parameters****Occupational exposure limits**

Ingredient name	Exposure limits
Ethyl Alcohol	<b>ACGIH TLV (United States, 4/2014).</b> STEL: 1000 ppm 15 minutes. <b>NIOSH REL (United States, 10/2013).</b> TWA: 1900 mg/m <sup>3</sup> 10 hours. TWA: 1000 ppm 10 hours. <b>OSHA PEL (United States, 2/2013).</b> TWA: 1900 mg/m <sup>3</sup> 8 hours. TWA: 1000 ppm 8 hours.

**Appropriate engineering controls** : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

**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. 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. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

**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. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**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. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

**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, particulate filter 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.



## Section 9. Physical and chemical properties

Note: The properties listed here are based on the carrier solution.

### Appearance

<b>Physical state</b>	: Suspended solid in carrier solution.
<b>Color</b>	: Colorless to white.
<b>Odor</b>	: Ethanol.
<b>Odor threshold</b>	: Not available.
<b>pH</b>	: 6 to 8 [Conc. (% w/w): 1%]
<b>Melting point</b>	: Not available.
<b>Boiling point</b>	: Not available.
<b>Flash point</b>	: Closed cup: 36°C (96.8°F) [Pensky-Martens.]
<b>Burning time</b>	: Not available.
<b>Burning rate</b>	: Not available.
<b>Evaporation rate</b>	: >1 (Butyl acetate = 1)
<b>Flammability (solid, gas)</b>	: Flammable in the presence of the following materials or conditions: open flames, sparks and static discharge. Slightly flammable in the presence of the following materials or conditions: heat.
<b>Lower and upper explosive (flammable) limits</b>	: Not available.
<b>Vapor pressure</b>	: 1.3 kPa (9.75 mm Hg) [room temperature]
<b>Vapor density</b>	: 1 [Air = 1]
<b>Relative density</b>	: 1
<b>Solubility</b>	: Not available.
<b>Partition coefficient: n-octanol/water</b>	: Not available.
<b>Auto-ignition temperature</b>	: Not available.
<b>Decomposition temperature</b>	: Not available.
<b>Viscosity</b>	: Not available.

## Section 10. Stability and reactivity

<b>Reactivity</b>	: No specific test data related to reactivity available for this product or its ingredients.
<b>Chemical stability</b>	: The product is chemically stable if stored and used under recommended conditions.
<b>Possibility of hazardous reactions</b>	: Under normal, recommended conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	: Avoid all possible sources of ignition (spark or flame).
<b>Incompatible materials</b>	: Reactive or incompatible with the following materials: oxidizing materials, acids and alkalis.
<b>Hazardous decomposition products</b>	: Under normal, recommended conditions of storage and use, hazardous decomposition products should not be produced.

**Section 11. Toxicological information****Information on toxicological effects****Acute toxicity**

Product/ingredient name	Result	Species	Dose	Exposure
Ethyl Alcohol	LC50 Inhalation Vapor LD50 Oral	Rat Rat	124700 mg/m <sup>3</sup> 7 g/kg	4 hours -

**Irritation/Corrosion**

Product/ingredient name	Result	Species	Score	Exposure	Observation
Ethyl Alcohol	Eyes - Moderate irritant	Rabbit	-	100 µL	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 mg	-
	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Eyes - Moderate irritant	Rabbit	-	0.06666667 minutes 100 mg	-
	Eyes - Severe irritant	Rabbit	-	500 mg	-
	Skin - Mild irritant	Rabbit	-	400 mg	-

**Sensitization**

There is no data available.

**Carcinogenicity**

Not classified or listed by IARC, NTP, OSHA, EU and ACGIH.

**Specific target organ toxicity (single exposure)**

There is no data available.

**Specific target organ toxicity (repeated exposure)**

There is no data available.

**Aspiration hazard**

There is no data available.

**Information on the likely routes of exposure** : Dermal contact. Eye contact. Inhalation.

**Potential acute health effects**

**Eye contact** : Causes serious eye irritation.  
**Inhalation** : No known significant effects or critical hazards.  
**Skin contact** : No known significant effects or critical hazards.  
**Ingestion** : Irritating to mouth, throat and stomach.

**Symptoms related to the physical, chemical and toxicological characteristics**

**Eye contact** : Adverse symptoms may include the following:  
 pain or irritation  
 watering  
 redness  
**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.

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



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# SAFETY DATA SHEET

Page: 8/11

## Section 11. Toxicological information

**Potential immediate effects** : No known significant effects or critical hazards.

**Potential delayed effects** : No known significant effects or critical hazards.

**Long term exposure**

**Potential immediate effects** : No known significant effects or critical hazards.

**Potential delayed effects** : No known significant effects or critical hazards.

**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.

**Numerical measures of toxicity**

**Acute toxicity estimates**

There is no data available.

## Section 12. Ecological information

**Toxicity**

Product/ingredient name	Result	Species	Exposure
Ethyl Alcohol	Acute EC50 17.921 mg/L Marine water	Algae - Ulva pertusa	96 hours
	Acute EC50 2000 µg/L Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 25500 µg/L Marine water	Crustaceans - Artemia franciscana - Larvae	48 hours
	Acute LC50 42000 µg/L Fresh water	Fish - Oncorhynchus mykiss	4 days
	Chronic NOEC 4.995 mg/L Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 0.375 ul/L Fresh water	Fish - Gambusia holbrooki - Larvae	12 weeks

**Persistence and degradability**

There is no data available.

**Bioaccumulative potential**

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Ethyl Alcohol	-0.32	-	low

**Mobility in soil**

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

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



**Section 13. Disposal considerations**

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and bi-products should comply with the requirements of local, regional, national and international environmental protection legislation. Waste should be enclosed in a suitable labelled container and disposed of via a licenced waste disposal contractor. When deciding on disposal method, take into account the nature of any contaminants present.

**Section 14. Transport information**

	<b>DOT Classification</b>	<b>IMDG</b>	<b>IATA</b>
<b>UN number</b>	Not regulated.	Not regulated.	Not regulated.
<b>UN proper shipping name</b>	-	-	-
<b>Transport hazard class(es)</b>	-	-	-
<b>Packing group</b>	-	-	-
<b>Environmental hazards</b>	No.	No.	No.
<b>Additional information</b>	Not restricted, Special Provision 144	Not restricted, Special Provision 144	Not restricted, Special Provision A58

**AERG** : Not applicable.

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** : Not available.

**Section 15. Regulatory information**

**U.S. Federal regulations** : **TSCA 8(a) CDR Exempt/Partial exemption:** Not determined  
**United States inventory (TSCA 8b):** All components are listed or exempted.

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Not listed

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

**Section 15. Regulatory information**

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

**SARA 302/304****Composition/information on ingredients**

No products were found.

**SARA 304 RQ** : Not applicable.

**SARA 311/312**

**Classification** : Fire hazard  
Immediate (acute) health hazard

**Composition/information on ingredients**

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Ethyl Alcohol	16	Yes.	No.	No.	Yes.	No.

**SARA 313**

No products were found.

**State regulations**

**Massachusetts** : The following components are listed: Ethyl Alcohol

**New York** : None of the components are listed.

**New Jersey** : The following components are listed: Ethyl Alcohol

**Pennsylvania** : The following components are listed: Ethyl Alcohol

**California Prop. 65**

No products were found.

**Section 16. Other information****History**

**Date of issue mm/dd/yyyy** : 04/30/2015

**Date of previous issue** : 03/15/2014

**Version** : 2

**Revised Section(s)** : 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16.

**Prepared by** : KMK Regulatory Services Inc.

**Key to abbreviations**

: ATE = Acute Toxicity Estimate  
BCF = Bioconcentration Factor  
GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
IATA = International Air Transport Association  
IBC = Intermediate Bulk Container  
IMDG = International Maritime Dangerous Goods  
LogPow = logarithm of the octanol/water partition coefficient  
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)



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## SAFETY DATA SHEET

Page: 11/11

### Section 16. Other information

UN = United Nations

**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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