



Pall Corporation

PRODUCT SAFETY DATA SHEET**Protein A Ceramic HyperD® F****Section 1. Chemical product and company identification**

Common name	: Protein A Ceramic HyperD® F
Synonym	: Porous ceramic beads containing protein A bound hydrogel filled pores, suspended in ethanol aqueous solution.
Code	: 20078
Material uses	: Purification of biological molecules by affinity chromatography.
Contact in France	: Pall France 48 Avenue des Genottes F-95800 Cergy St Christophe Tel : 33-1-3420-7800
Contact in US	: Pall Corporation 2200 Northern Blvd East Hills, NY 11548 Tel : +1 516 484 5400
In case of emergency	: CHEMTREC: 800-424-9300

Section 2. Hazards identification

Physical state	: Liquid.
Odor	: Ethanol
Color	: White.
Hazard status	: This material is classified as hazardous under OSHA regulations.
Emergency overview	: WARNING ! CAUSES EYE IRRITATION. CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS: BLOOD, REPRODUCTIVE SYSTEM, LIVER, RESPIRATORY TRACT, SKIN, CENTRAL NERVOUS SYSTEM, EYE, LENS OR CORNEA. FLAMMABLE LIQUID AND VAPOR. VAPOR MAY CAUSE FLASH FIRE. MAY CAUSE SKIN IRRITATION. Avoid contact with skin and clothing. Keep away from heat, sparks and flame. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.
Routes of entry	: Dermal contact. Eye contact. Inhalation.
Potential acute health effects	
Eyes	: Irritating to eyes.
Skin	: Moderately irritating to the skin.
Inhalation	: No known significant effects or critical hazards.
Ingestion	: No known significant effects or critical hazards.
Potential chronic health effects	: Carcinogenic effects Classified A4 (Not classifiable for humans or animals.) by ACGIH [Ethanol]. Mutagenic effects Not available. Teratogenic effects Not available.
Medical conditions aggravated by over-exposure	: Repeated skin exposure can produce local skin destruction or dermatitis. Repeated or prolonged contact with spray or mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to the substance can produce target organ damage.

See toxicological information (section 11)

Section 3. Composition, Information on Ingredients

United States

Name	CAS number	%
Ethanol	64-17-5	16

See Sections 8, 11 and 14 for details.

Section 4. First aid measures

- Eye contact** : Check for and remove any contact lenses. In case of contact with eyes, rinse immediately with plenty of water. Get medical attention if symptoms occur.
- Skin contact** : Wash with soap and water. Get medical attention if symptoms occur.
- Inhalation** : If inhaled, remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms appear.
- Ingestion** : Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention if symptoms appear.
- Notes to physician** : No specific antidote. Medical staff must contact Poison Control Center.

Section 5. Fire fighting measures

- Flammability of the product** : Flammable.
- Products of combustion** : These products are carbon oxides.
- Extinguishing media**
 - Suitable** : Use dry chemical, carbon dioxide, water spray (fog) or foam.
- 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** : Immediately contact emergency personnel. Eliminate all ignition sources. Keep unnecessary personnel away. Use suitable protective equipment. Do not touch or walk through spilled material.
- Environmental precautions** : Avoid dispersal of spilled material, runoff and contact with soil, waterways, drains and sewers.
- Methods for cleaning up** : If emergency personnel are unavailable, contain spilled material. For small spills, add absorbent (soil may be used in the absence of other suitable materials) and use a non-sparking or explosion-proof means to transfer material to a sealable, appropriate container for disposal. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal.

Section 7. Handling and storage

- Handling** : Avoid contact with eyes, skin and clothing. Keep container closed. Use only with adequate ventilation. Keep away from heat, sparks and flame. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Wash thoroughly after handling.
- Storage** : Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame). Storage temperature : 2-8°C (36-46°F).

Section 8. Exposure controls, personal protection

United States

Product name

Ethanol

Exposure limits

ACGIH TLV (United States, 1/2005).

TWA: 1880 mg/m³ 8 hour(s). Form: All forms.

TWA: 1000 ppm 8 hour(s). Form: All forms.

NIOSH REL (United States, 12/2001).

TWA: 1900 mg/m³ 10 hour(s). Form: All forms.

TWA: 1000 ppm 10 hour(s). Form: All forms.

OSHA PEL (United States, 8/1997).

TWA: 1900 mg/m³ 8 hour(s). Form: All forms.

TWA: 1000 ppm 8 hour(s). Form: All forms.

Engineering measures

- : Use only with adequate ventilation. If user operations generate dust, fumes, 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 limit. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Personal protection

Eyes

- : Safety glasses.

Skin

- : Lab coat.

Respiratory

- : A respirator is not needed under normal and intended conditions of product use.

Hands

- : Natural rubber (latex).



HMIS Code/Personal protective equipment

- : B

Personal protection in case of a large spill

- : Safety glasses, goggles or face shield. Impervious gloves. Full suit. Boots. Wear NIOSH-approved self-contained breathing apparatus or equivalent and full protective gear.

Hygiene measures

- : Wash hands, forearms and face thoroughly after handling compounds and before eating, smoking and using the lavatory and at the end of the day. Follow good industrial hygiene practice.

Section 9. Physical and chemical properties

Physical state

- : Liquid.

Flash point

- : Closed cup: 36°C (96.8°F).(Pensky-Martens.)

Auto-ignition temperature

- : The lowest known value is 398.85°C (749.9°F) (Ethanol).

Flammable limits

- : The greatest known range is Lower: 3.3% Upper: 19% (Ethanol)

Color

- : White.

Odor

- : Ethanol

pH

- : 6 to 8 [Neutral.]

Boiling/condensation point

- : The lowest known value is 78.35°C (173°F) (Ethanol).

Melting/freezing point

- : May start to solidify at -113.89°C (-173°F) based on data for: Ethanol.

Relative density

- : 1 (Water = 1)

Vapor pressure

- : 1.3 kPa (10 mm Hg) (at 20°C)

Vapor density

- : 1 (Air = 1)

Odor threshold

- : The lowest known value is 10 ppm (Ethanol)



Evaporation rate : >1
Solubility : Easily soluble in cold water, hot water.

Section 10. Stability and reactivity

Stability and reactivity : The product is stable.
Incompatibility with various substances : Reactive with oxidizing materials, acids and alkalis.
Hazardous polymerization : Will not occur.
Conditions of reactivity : 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.

Section 11. Toxicological information

Toxicity data				
Product/ingredient name	Test	Result	Route	Species
Ethanol	LD50	7060 mg/kg	Oral	Rat
	LD50	6300 mg/kg	Oral	Rabbit
	LD50	3450 mg/kg	Oral	Mouse

Acute Effects

Eyes : Irritating to eyes.
Skin : Moderately irritating to the skin.
Inhalation : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.
Potential chronic health effects : Carcinogenic effects: Classified A4 (Not classifiable for humans or animals.) by ACGIH [Ethanol].
 Mutagenic effects: Not available.
 Teratogenic effects: Not available.
Target organs : Contains material which causes damage to the following organs: blood, the reproductive system, liver, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea.

Section 12. Ecological information

Ecotoxicity data			
Product/ingredient name	Species	Period	Result
Ethanol	Daphnia magna (EC50)	48 hour(s)	2 mg/l
	Daphnia magna (EC50)	48 hour(s)	9.3 mg/l
	Daphnia magna (EC50)	48 hour(s)	>100 mg/l
	Pimephales promelas (LC50)	96 hour(s)	>100 mg/l
	Daphnia magna (LC50)	96 hour(s)	>100 mg/l
	Oncorhynchus mykiss (LC50)	96 hour(s)	13000 mg/l

Environmental precautions : No known significant effects or critical hazards.
Products of degradation : These products are carbon oxides .



Section 13. Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material, runoff and contact with soil, waterways, drains and sewers. 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 and local authority requirements.

Section 14. Transport information

Regulatory information

UN/ IMDG/IATA DOT : Not regulated.

Additional information	UN	IMDG	IATA	DOT
	-	-	Not restricted, Special Provision A58	-

Section 15. Regulatory information

United States

HCS Classification : Flammable liquid
Irritating material
Target organ effects

U.S. Federal regulations : TSCA : All components listed.
SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: Ethanol
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Ethanol:
Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard
Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: No products were found.
Clean Air Act (CAA) 112 accidental release prevention: No products were found.
Clean Air Act (CAA) 112 regulated flammable substances: No products were found.
Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

State regulations : Pennsylvania RTK: Ethanol: (generic environmental hazard)
Massachusetts RTK: Ethanol
New Jersey: Ethanol
California prop. 65: No products were found.

International lists : This product, (and its ingredients) is (are) listed on national inventories, or is (are) exempted from being listed, Australia (AICS), in Europe (EINECS/ELINCS), in Korea (TCCL), in Japan (METI), in the Philippines (RA6969).

Section 16. Other information

Label requirements (U.S.A.) : CAUSES EYE IRRITATION.
CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS:
BLOOD, REPRODUCTIVE SYSTEM, LIVER, RESPIRATORY TRACT, SKIN, CENTRAL NERVOUS SYSTEM, EYE, LENS OR CORNEA.
FLAMMABLE LIQUID AND VAPOR.
VAPOR MAY CAUSE FLASH FIRE.
MAY CAUSE SKIN IRRITATION.

Hazardous Material Information System (U.S.A.) :

HMIS RATING

Health	*	1
Fire hazard		2
Physical Hazard		0
Personal protection		B

HAZARD RATINGS

4- Extreme
 3- Serious
 2- Moderate
 1- Slight
 0- Minimal
 See section 8 for more detailed information on personal protection.

National Fire Protection Association (U.S.A.) :



References :

ANSI Z400.1, MSDS Standard, 2004. - Manufacturer's Material Safety Data Sheet. - 29CFR Part1910.1200 OSHA MSDS Requirements. - 49CFR Table List of Hazardous Materials, UN#, Proper Shipping Names, PG.

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