Pall Corporation

PRODUCT SAFETY DATA SHEET

IMAC HyperCel™

Section 1. Chemical product and company identification

Common name : **IMAC HyperCel™**

Synonym : Cellulose beads suspended in ethanol aqueous solution.

Part number : 20093

Material uses : Purification of biomolecules by chromatography.

Contact in France : Pall BioSepra, 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 or moist cake according to the pack size.

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 organs damage.

See toxicological information (section 11)

Section 3. Composition, Information on Ingredients

	CAS number	% by weight
United States		
Ethanol	64-17-5	16

This material is classified as hazardous under OSHA regulations.

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.

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

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

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

Products of combustion : These products are carbon oxides.

Fire hazards in the presence of various substances : 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.

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 and 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

Engineering controls : Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Eyes : 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.
Recommended: Splash goggles.

Respiratory : Not required if handled in a ventilated enclosure.

Hands : 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.
>8 hour/hours (breakthrough time): Natural rubber (latex).

Skin/Body : 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.
Body: Recommended: Lab coat.

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.

Product name	Exposure limits
United States	
Ethanol	**ACGIH TLV (United States, 5/2004).** TWA: 1880 mg/m^3 8 hour/hours. Form: All forms. TWA: 1000 ppm 8 hour/hours. Form: All forms. **NIOSH REL (United States, 12/2001).** TWA: 1900 mg/m^3 10 hour/hours. Form: All forms. TWA: 1000 ppm 10 hour/hours. Form: All forms. **OSHA PEL (United States, 8/1997).** TWA: 1900 mg/m^3 8 hour/hours. Form: All forms. TWA: 1000 ppm 8 hour/hours. Form: All forms.

Consult local authorities for acceptable exposure limits.

Section 9. Physical and chemical properties (for ethanol solution)

Physical state : Liquid or moist cake according to the pack size.

Color : White.

Odor : Ethanol

Molecular formula : Not applicable.

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.

Specific gravity : 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

Dispersibility properties : See solubility in water.

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.

Section 11. Toxicological information

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

Ingredient name	Species	Period	Result
Ethanol	Daphnia magna (EC50)	48 hour/hours	2 mg/l
	Daphnia magna (EC50)	48 hour/hours	9.3 mg/l
	Daphnia magna (EC50)	48 hour/hours	>100 mg/l
	Pimephales promelas (LC50)	96 hour/hours	>100 mg/l
	Daphnia magna (LC50)	96 hour/hours	>100 mg/l
	Oncorhynchus mykiss (LC50)	96 hour/hours	13000 mg/l

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 and 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 local authority requirements.

Consult your local or regional authorities.

Section 14. Transport information

Classification

DOT/ IMDG/ IATA : Not regulated.

Label

Not applicable.

Additional information

IATA

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 regulations

International lists : All components listed are listed on major international inventories or exempted from being listed in Australia (AICS), Europe (EINECS/ELINCS), Korea (TCCL), Japan (METI/MOL), Philippines (RA6969).

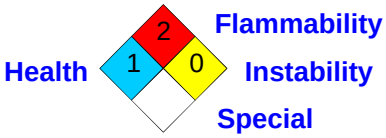
Section 16. Other information

Label requirements : 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.) :

Health	*	1
Fire hazard		2
Reactivity		0
Personal protection		C

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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