

Material Safety Data Sheet

Hypergel OP Columns and Guards

1. Product and company identification

This product is considered an article. This Material Safety Data Sheet is written based on the encapsulated substance or mixture in this article.

Product name	: Hypergel OP Columns and Guards
Material uses	: Analytical chemistry. chromatography column Cartridge PL1110-1120HY - 10 uM HYPERGEL OP GUARD, 50 x 7.7 mm PL1110-1520HY - 5 uM HYPERGEL OP GUARD, 50 x 7.7 mm PL1110-6115HY - 10 uM HYPERGEL OP5, 300 x 7.7 mm PL1110-6120HY - 10 uM HYPERGEL OP10, 300 x 7.7 mm PL1110-6125HY - 10 uM HYPERGEL OP25, 300 x 7.7 mm PL1110-6130HY - 10 uM HYPERGEL OP30, 300 x 7.7 mm PL1110-6140HY - 10 uM HYPERGEL OP40, 300 x 7.7 mm PL1110-6150HY - 10 uM HYPERGEL OP50, 300 x 7.7 mm PL1110-6160HY - 10 uM HYPERGEL OP60, 300 x 7.7 mm PL1110-6515HY - 5 uM HYPERGEL OP5, 300 x 7.7 mm PL1110-6520HY - 5 uM HYPERGEL OP10, 300 x 7.7 mm PL1110-6525HY - 5 uM HYPERGEL OP25, 300 x 7.7 mm PL1110-6530HY - 5 uM HYPERGEL OP30, 300 x 7.7 mm PL1110-6540HY - 5 uM HYPERGEL OP40, 300 x 7.7 mm PL1110-6550HY - 5 uM HYPERGEL OP50, 300 x 7.7 mm PL1110-8520HY - 5 uM HYPERGEL OP10, 600 x 7.7 mm
Supplier/Manufacturer	: Agilent Technologies, Inc. Logistics Center - Americas 500 Ships Landing Way New Castle, Delaware 19720 800-227-9770
Part No.	: PL1110-1120HY_PL1110-1520HY_PL1110-6115HY_PL1110-6120HY_PL1110-6125HY PL1110-6130HY_PL1110-6140HY_PL1110-6150HY_PL1110-6160HY_PL1110-6515HY PL1110-6520HY_PL1110-6525HY_PL1110-6530HY_PL1110-6540HY_PL1110-6550HY PL1110-8520HY
Validation date	: 03/28/2012
<u>In case of emergency</u>	: Chemtrec: 1-800-424-9300

2. Hazards identification

This article, when used under reasonable conditions and in accordance with the directions for use, should not present a health hazard. The substance or mixture is encapsulated in the article. Only if released due to use or processing of the article in a manner not in accordance with the product's directions for use it may present potential health and safety hazards.

Physical state	: Liquid.
Odor	: Aromatic.
OSHA/HCS status	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
<u>Emergency overview</u>	
Signal word	: WARNING!
Hazard statements	: FLAMMABLE LIQUID AND VAPOR. INHALATION CAUSES HEADACHES, DIZZINESS, DROWSINESS AND NAUSEA AND MAY LEAD TO UNCONSCIOUSNESS. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. POSSIBLE CANCER HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE CANCER, BASED ON ANIMAL DATA.
Precautions	:

2. Hazards identification

Keep away from heat, sparks and flame. Avoid exposure - obtain special instructions before use. Do not breathe vapor or mist. Do not get on skin or clothing. Avoid contact with eyes. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Potential acute health effects

- Inhalation** : Can cause central nervous system (CNS) depression. Irritating to respiratory system.
- Ingestion** : Can cause central nervous system (CNS) depression.
- Skin** : Irritating to skin. Defatting to the skin.
- Eyes** : Irritating to eyes.

Potential chronic health effects

- Chronic effects** : Contains material that may cause target organ damage, based on animal data. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.
- Carcinogenicity** : Contains material which may cause cancer, based on animal data. Risk of cancer depends on duration and level of exposure.
- 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.
- Target organs** : Contains material which may cause damage to the following organs: kidneys, upper respiratory tract, skin, eyes, central nervous system (CNS), ears.

Over-exposure signs/symptoms

- Inhalation** : Adverse symptoms may include the following:
nausea or vomiting
respiratory tract irritation
coughing
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
- Ingestion** : No specific data.
- Skin** : Adverse symptoms may include the following:
irritation
redness
dryness
cracking
- Eyes** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Medical conditions aggravated by over-exposure** : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (Section 11)

3. Composition/information on ingredients

This article, when used under reasonable conditions and in accordance with the directions for use, should not present a health hazard. The substance or mixture is encapsulated in the article. Only if released due to use or processing of the article in a manner not in accordance with the product's directions for use it may present potential health and safety hazards.

Name	CAS number	%
Ethylbenzene	100-41-4	60 - 100

3. Composition/information on ingredients

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.

4. First aid measures

- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
- Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
- Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
- Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
- Notes to physician** : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5. Fire-fighting measures

- Flammability of the product** : Flammable liquid. 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.
- Extinguishing media**
- Suitable** : Use dry chemical, CO₂, water spray (fog) or foam.
- Not suitable** : Do not use water jet.
- Special exposure hazards** : 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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
- 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.
- Special remarks on fire hazards** : Emits toxic fumes when heated.

6. Accidental release measures

- Personal precautions** : 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. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
- 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 for cleaning up** : 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. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.

7. Handling and storage

- Handling** :
- Put on appropriate personal protective equipment (see Section 8). 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. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. 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 explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Storage** :
- Store in accordance with local regulations. Store in a segregated and approved area. 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. Eliminate all ignition sources. Separate from oxidizing materials. 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.

8. Exposure controls/personal protection

Since the hazardous ingredient in this article is encapsulated, the risk of exposure by inhalation, ingestion, skin contact and eyes contact is minimum.

Ingredient	Exposure limits
Ethylbenzene	<p>ACGIH TLV (United States, 2/2010). TWA: 20 ppm 8 hour(s).</p> <p>NIOSH REL (United States, 6/2009). STEL: 545 mg/m³ 15 minute(s). STEL: 125 ppm 15 minute(s). TWA: 435 mg/m³ 10 hour(s). TWA: 100 ppm 10 hour(s).</p> <p>OSHA PEL (United States, 6/2010). TWA: 435 mg/m³ 8 hour(s). TWA: 100 ppm 8 hour(s).</p> <p>OSHA PEL 1989 (United States, 3/1989). STEL: 545 mg/m³ 15 minute(s). STEL: 125 ppm 15 minute(s). TWA: 435 mg/m³ 8 hour(s). TWA: 100 ppm 8 hour(s).</p>

- 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.
- Engineering measures** :
- Use only with adequate ventilation. 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.
- 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.

Personal protection

8. Exposure controls/personal protection

- Respiratory** : 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.
- 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.
- 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 or dusts.
- Skin** : 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.
- 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.
- Other protection** : Not available.

9. Physical and chemical properties

- Physical state** : Liquid.
- Flash point** : Closed cup: 21°C (69.8°F)
- Auto-ignition temperature** : 432.22°C (810°F)
- Flammable limits** : Lower: 0.8%
Upper: 6.7%
- Color** : White.
- Odor** : Aromatic.
- pH** : Not available.
- Boiling/condensation point** : 136°C (276.8°F)
- Melting/freezing point** : -95°C (-139°F)
- Specific gravity** : 0.9
- Vapor pressure** : Not available.
- Vapor density** : Not available.
- Odor threshold** : Not available.
- Evaporation rate** : Not available.
- Solubility** : Insoluble in the following materials: cold water and hot water.

10. Stability and reactivity

- Chemical stability** : The product is stable.
- Conditions to avoid** : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
- Materials to avoid** : Reactive or incompatible with the following materials:
oxidizing materials
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

11. Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Ethylbenzene	LD50 Dermal LD50 Oral	Rabbit Rat	>5000 mg/kg 3500 mg/kg	- -

Chronic toxicity

Conclusion/Summary : Not available.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Ethylbenzene	Skin - Mild irritant	Rabbit	-	24 hours 15 milligrams	-

Sensitizer

Conclusion/Summary : Not available.

Carcinogenicity

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Ethylbenzene	A3	2B	-	-	-	-

Mutagenicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

12. Ecological information

Ecotoxicity : This material is toxic to aquatic life.

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
Ethylbenzene	Acute EC50 4600 ug/L Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 3600 ug/L Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 2970 ug/L Fresh water	Daphnia - Daphnia magna - Neonate - <=24 hours	48 hours
	Acute LC50 >5200 ug/L Marine water	Crustaceans - Americamysis bahia - <24 hours	48 hours
	Acute LC50 4200 ug/L Fresh water	Fish - Oncorhynchus mykiss	96 hours

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

13. Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized 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. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. 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. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

13. Disposal considerations




Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. Transport information

This Material Safety Data Sheet is written based on the encapsulated substance or mixture in this article. Since the hazardous ingredient is encapsulated, the risk of exposure by inhalation, ingestion, skin contact and eyes contact is minimum.

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT	UN3175	Solids containing flammable liquid, n.o.s. (Ethylbenzene, Benzene, diethenyl-, polymer with ethenylbenzene)	4.1	II		<p>Limited quantity Yes.</p> <p>Packaging instruction Passenger aircraft Quantity limitation: 15 kg</p> <p>Cargo aircraft Quantity limitation: 50 kg</p> <p>Special provisions 47, IB6, IP2, T3</p>
IMDG	UN3175	SOLIDS CONTAINING FLAMMABLE LIQUID, N.O.S. (Ethylbenzene, Benzene, diethenyl-, polymer with ethenylbenzene)	4.1	II		<p>Emergency schedules (EmS) F-A, S-I</p>
IATA	UN3175	Solids containing flammable liquid, n.o.s. (Ethylbenzene, Benzene, diethenyl-, polymer with ethenylbenzene)	4.1	II		<p>Passenger and Cargo Aircraft Quantity limitation: 15 kg Packaging instructions: 445</p> <p>Cargo Aircraft Only Quantity limitation: 50 kg Packaging instructions: 448</p> <p>Limited Quantities - Passenger Aircraft Quantity limitation: 5 kg Packaging instructions: Y441</p>

PG* : Packing group

15. Regulatory information

HCS Classification : Flammable liquid
Irritating material
Carcinogen
Target organ effects

U.S. Federal regulations : **TSCA 8(a) IUR**: Not determined

United States inventory (TSCA 8b): All components are listed or exempted.

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: Ethylbenzene

SARA 311/312 MSDS distribution - chemical inventory - hazard identification:

Ethylbenzene: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard

Clean Water Act (CWA) 307: Ethylbenzene

Clean Water Act (CWA) 311: Ethylbenzene

Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) : Listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 313

	Product name	CAS number	Concentration
Form R - Reporting requirements	Ethylbenzene	100-41-4	40 - 70
Supplier notification	Ethylbenzene	100-41-4	40 - 70

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

State regulations

Massachusetts : The following components are listed: ETHYL BENZENE

New York : The following components are listed: Ethylbenzene

New Jersey : The following components are listed: ETHYL BENZENE; BENZENE, ETHYL-

Pennsylvania : The following components are listed: BENZENE, ETHYL-

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Ethylbenzene	Yes.	No.	41 µg/day (ingestion) 54 µg/day (inhalation)	No.

16. Other information

Label requirements : FLAMMABLE LIQUID AND VAPOR. INHALATION CAUSES HEADACHES, DIZZINESS, DROWSINESS AND NAUSEA AND MAY LEAD TO UNCONSCIOUSNESS. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. POSSIBLE CANCER HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE CANCER, BASED ON ANIMAL DATA.

Date of issue : 03/28/2012

Date of previous issue : No previous validation.

Version : 1

✔ Indicates information that has changed from previously issued version.

Notice to reader

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