# SAFETY DATA SHEET

United States

## Section 1. Identification

**Product name** **Protein A Mag Sepharose™ Xtra, 5 x 1 ml**

**Catalogue Number** 28967062

**Other means of identification** Not available.

**Product type** Liquid.

**Relevant identified uses of the substance or mixture and uses advised against**

**Identified uses**

Laboratory chemicals
Liquid chromatography.
Scientific research and development

Consumer use -

**Supplier**

Cytiva
Amersham Place
Little Chalfont
Buckinghamshire
HP7 9NA United Kingdom
+44 1494 508000

Cytiva USA
100 Results Way
Marlborough, MA 01752
1-800-526-3593

**In case of emergency** INFOTRAC - 24 Hour number: 1-800-535-5053
Outside of the United States, call 24 Hour number: 001-352-323-3500 (Call Collect)

## Section 2. Hazards identification

**OSHA/HCS status** This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Classification of the substance or mixture** FLAMMABLE LIQUIDS - Category 3

Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 50%

**GHS label elements**

**Hazard pictograms**



**Signal word** Warning

**Hazard statements** Flammable liquid and vapor.

**Precautionary statements**

**Prevention** Wear protective gloves: 1 - 4 hours (breakthrough time): butyl rubber, neoprene. Wear protective clothing: Recommended: lab coat. Wear eye or face protection: Recommended: safety glasses with side-shields. Wear hearing protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

**Response** IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

**Storage** Not applicable.

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

| | |
|---|---|
| **Hazards not otherwise classified** | None known. |
| **Hazards identified when used** | No known significant effects or critical hazards. |

## Section 3. Composition/information on ingredients

| | |
|---|---|
| **Substance/mixture** | Mixture |
| **Other means of identification** | Not available. |

| Ingredient name | Synonyms | % | Identifiers |
|---|---|---|---|
| ethanol | ethyl alcohol; ALCOHOL; Ethyl alcohol (Ethanol); EtOH; Grain alcohol; Cologne spirit; undenatured ethyl alcohol, of an alcoholic strength by volume of 80 % or more and containing up to 20 % activated carbon; aqueous solution, containing by weight - 25 % or more, but not more than 35 % of a copolymer of vinyl caprolactam, vinyl pyrrolidone, N, N-dimethylaminopropyl methacrylamide and 3-(methacryloylamino) propyllauryldimethylammonium chloride, - 10 % or more, but not more than 16 % of ethanol whether or not denatured with tert-butyl alcohol and/or denatonium benzoate; Blend, consisting of ethyl alcohol, ethyl acetate and aldehydes, higher alcohols and water; blend, consisting of ethyl alcohol, ethyl acetate and water; Denatured Alcohol | ≥10 - ≤30 | CAS: 64-17-5 |

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 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. |
| **Skin contact** | Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. |
| **Ingestion** | Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. |

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

**Potential acute health effects**

| | |
|---|---|
| **Eye contact** | No known significant effects or critical hazards. |
| **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. |

**Over-exposure signs/symptoms**

| | |
|---|---|
| **Eye contact** | No specific data. |
| **Inhalation** | No specific data. |
| **Skin contact** | No specific data. |
| **Ingestion** | No specific data. |

**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, $CO_2$, water spray (fog) or foam. |
| **Unsuitable extinguishing media** | Do not use water jet. |
| **Specific hazards arising from the chemical** | Flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. |
| **Hazardous thermal decomposition products** | Decomposition products may include the following materials:<br>carbon dioxide<br>carbon monoxide<br>metal oxide/oxides |
| **Special protective actions 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. 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. 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** | Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor. |
| **Large spill** | Stop leak if without risk. 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. Wash spillages into an effluent treatment plant or proceed as follows. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. 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. |

## 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. Avoid breathing vapor or mist. 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 only 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. |
| **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. |
| **Conditions for safe storage, including any incompatibilities** | Store between the following temperatures: 4 to 30°C (39.2 to 86°F). 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. See Section 10 for incompatible materials before handling or use. |

## Section 8. Exposure controls/personal protection

**Control parameters**

**Occupational exposure limits**

| Ingredient name | Exposure limits |
|---|---|
| ethanol | **NIOSH REL (United States, 10/2020)**<br>TWA 10 hours: 1000 ppm.<br>TWA 10 hours: 1900 mg/m³.<br>**CAL OSHA PEL (United States, 1/2025)**<br>TWA 8 hours: 1900 mg/m³.<br>TWA 8 hours: 1000 ppm.<br>**OSHA PEL (United States, 5/2018)**<br>TWA 8 hours: 1000 ppm.<br>TWA 8 hours: 1900 mg/m³.<br>**OSHA PEL 1989 (United States, 3/1989)**<br>TWA 8 hours: 1000 ppm.<br>TWA 8 hours: 1900 mg/m³.<br>**ACGIH TLV (United States, 1/2024)** A3.<br>STEL 15 minutes: 1000 ppm. |

**Biological exposure indices**

No exposure indices known.

**Appropriate engineering controls**

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.

**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.

**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: safety glasses with side-shields. Recommended: safety glasses with side-shields

**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. 1 - 4 hours (breakthrough time): butyl rubber, neoprene

**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. Recommended: lab coat

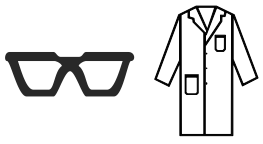
**Other skin protection**

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**

Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Recommended: A respirator is not needed under normal and intended conditions of product use.

**Personal protective equipment (Pictograms)**



## Section 9. Physical and chemical properties

**Appearance**

**Physical state** Liquid.

**Color** White. White to yellowish.

**Odor** Alcohol-like. [Slight]

**Odor threshold** 180 ppm

**pH** 5.5 to 8.5 [Conc. (% w/w): 100%]

**Melting point/freezing point** Not available.

**Boiling point or initial boiling point and boiling range** Not available.

**Flash point** Closed cup: 38 to 43°C (100.4 to 109.4°F)

**Burning time** Not applicable.

**Burning rate** Not applicable.

**Evaporation rate** Not available.

**Flammability** Not available.

**Lower and upper explosive (flammable) limits** Not available.

**Vapor pressure** Not available.

| | Vapor Pressure at 20˚C | | | Vapor pressure at 50˚C | | |
|---|---|---|---|---|---|---|
| **Ingredient name** | **mm Hg** | **kPa** | **Method** | **mm Hg** | **kPa** | **Method** |
| ethanol | 42.94865 | 5.7 | | | | |
| water | 17.5 | 2.3 | | | | |
| Agarose | 0 | 0 | | | | |

**Relative vapor density** Not available.

**Relative density** Not available.

**Solubility(ies)**

| **Media** | **Result** |
|---|---|
| cold water | Easily soluble |
| hot water | Easily soluble |

**Solubility in water** Not available.

**Miscible with water** Yes.

**Partition coefficient: n-octanol/ water** Not applicable.

**Auto-ignition temperature** Not available.

| **Ingredient name** | **°C** | **°F** | **Method** |
|---|---|---|---|
| ethanol | 455 | 851 | DIN 51794 |

**Decomposition temperature** Not available.

**SADT** Not available.

**Viscosity** Dynamic (room temperature): Not available.
Kinematic (room temperature): Not available.
Kinematic (40°C (104°F)): Not available.

**Flow time (ISO 2431)** Not available.

**Particle characteristics**

**Median particle size** Not applicable.

## Section 10. Stability and reactivity

**Reactivity** No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability** The product is stable.

**Possibility of hazardous reactions** Under normal conditions of storage and use, hazardous reactions will not occur.

**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.

**Incompatible materials** 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.

## Section 11. Toxicological information

**Information on toxicological effects**

**Acute toxicity**

| Product/ingredient name | Result |
|---|---|
| ethanol | **Rat - Oral - LD50**<br>7060 mg/kg<br>Toxic effects: Lung, Thorax, or Respiration - Other changes<br>**Rat - Inhalation - LC50 Vapor**<br>124700 mg/m³ [4 hours] |

**Conclusion/Summary [Product]** Not available.

**Skin corrosion/irritation**

Not available.

**Conclusion/Summary [Product]** Repeated exposure may cause skin dryness or cracking.

**Serious eye damage/eye irritation**

Not available.

**Conclusion/Summary [Product]** Not available.

**Respiratory corrosion/irritation**

Not available.

**Conclusion/Summary [Product]** Not available.

**Respiratory or skin sensitization**

Not available.

**Skin**

**Conclusion/Summary [Product]** Not available.

**Respiratory**

**Conclusion/Summary [Product]** Not available.

**Germ cell mutagenicity**

Not available.

**Conclusion/Summary [Product]** Not available.

**Carcinogenicity**

Not available.

**Conclusion/Summary [Product]** Not available.

**Reproductive toxicity**

Not available.

**Conclusion/Summary [Product]** Not available.

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

Not available.

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

Not available.

**Aspiration hazard**

Not available.

**Information on the likely routes of exposure** Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

**Potential acute health effects**

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

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

**Eye contact** No specific data.
**Inhalation** No specific data.
**Skin contact** No specific data.
**Ingestion** No specific data.

**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**

**Potential immediate effects** Not available.
**Potential delayed effects** Not available.

**Potential chronic health effects**

Not available.

**Conclusion/Summary [Product]** Not available.

**General** No known significant effects or critical hazards.
**Carcinogenicity** No known significant effects or critical hazards.
**Mutagenicity** No known significant effects or critical hazards.
**Reproductive toxicity** No known significant effects or critical hazards.

**Numerical measures of toxicity**

**Acute toxicity estimates**

| Product/ingredient name | Oral (mg/kg) | Dermal (mg/kg) | Inhalation (gases) (ppm) | Inhalation (vapors) (mg/l) | Inhalation (dusts and mists) (mg/l) |
|---|---|---|---|---|---|
| ethanol | 7000 | N/A | N/A | 124.7 | N/A |

**Other information** Adverse symptoms include the following: kidney abnormalities, liver abnormalities
Adverse symptoms may include the following: central nervous system depression

## Section 12. Ecological information

**Toxicity**

| Product/ingredient name | Result |
|---|---|
| ethanol | **Acute - LC50 - Marine water**<br>Fish - Bleak - *Alburnus alburnus*<br>Size: 8 to 10 cm<br>11 g/l [96 hours]<br>Effect: Mortality<br>**Chronic - NOEC - Marine water**<br>Algae - Green algae - *Ulva pertusa*<br>4.995 mg/l [96 hours]<br>Effect: Reproduction<br>**Acute - EC50 - Fresh water**<br>Crustaceans - Ostracod - *Cypris subglobosa*<br>1074 mg/l [48 hours]<br>Effect: Intoxication<br>**Chronic - NOEC - Fresh water**<br>Daphnia - Water flea - *Daphnia magna* - Neonate<br>Age: <24 hours<br>100 µl/l [21 days]<br>Effect: Mortality<br>**Acute - EC50 - Marine water**<br>Algae - Green algae - *Ulva pertusa*<br>Size: 9.4 mm<br>3306 mg/l [96 hours]<br>Effect: Reproduction |

**Conclusion/Summary [Product]** Not available.

**Persistence and degradability**

| Product/ingredient name | Result |
|---|---|
| ethanol | **Aerobic**<br>100% [20 days] - Readily |

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|---|---|---|
| ethanol | - | - | Readily |

**Bioaccumulative potential**

| Product/ingredient name | $LogP_{ow}$ | BCF | Potential |
|---|---|---|---|
| ethanol | -0.35 | 0.66 | Low |

**Mobility in soil**

**Soil/Water partition coefficient** 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 any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. 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.

**Waste stream** Code: D001
Classification: Ignitability

## Section 14. Transport information

**Product is not regulated as dangerous goods for transport.**

## Section 15. Regulatory information

**U.S. Federal regulations** **TSCA 8(a) CDR Exempt/Partial exemption**: Not determined

**TSCA 12(b) - Chemical export notification**

Not applicable.

| | |
|---|---|
| **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 |
| **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** FLAMMABLE LIQUIDS - Category 3

**Composition/information on ingredients**

| Name | % | Classification |
|---|---|---|
| ethanol | 14 - 19 | FLAMMABLE LIQUIDS - Category 2 |

**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: ETHANOL |

**California Prop. 65**

This product does not require a Safe Harbor warning under California Prop. 65.

**International regulations**

**Chemical Weapon Convention List Schedules I, II & III Chemicals**

Not listed.

**Montreal Protocol**

Not listed.

**Stockholm Convention on Persistent Organic Pollutants**

Not listed.

**Rotterdam Convention on Prior Informed Consent (PIC)**

Not listed.

**UNECE Aarhus Protocol on POPs and Heavy Metals**

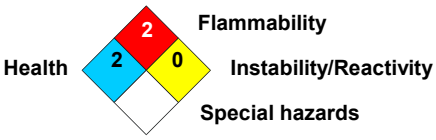
Not listed.

**Inventory list**

| | |
|---|---|
| **United States** | Not determined. |
| **Canada inventory** | All components are listed or exempted. |

## Section 16. Other information

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




**Procedure used to derive the classification**

| Classification | Justification |
|---|---|
| FLAMMABLE LIQUIDS - Category 3 | On basis of test data |

**History**

| | |
|---|---|
| **Date of printing** | 7/31/2025 |
| **Date of issue/Date of revision** | 7/31/2025 |
| **Date of previous issue** | 9/28/2023 |
| **Version** | 7 |
| | sds_author@cytiva.com |
| **Key to abbreviations** | ATE = Acute Toxicity Estimate<br>BCF = Bioconcentration Factor<br>GHS = Globally Harmonized System of Classification and Labelling of Chemicals<br>IATA = International Air Transport Association<br>IBC = Intermediate Bulk Container<br>IMDG = International Maritime Dangerous Goods<br>LogPow = logarithm of the octanol/water partition coefficient<br>MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)<br>N/A = Not available<br>UN = United Nations |
| **References** | Not available. |

Indicates information that has changed from previously issued version.

**Notice to reader**

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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.