



Material Safety Data Sheet

Prepared on: September 13, 2012

MagReSyn[®] Protein A

1. PRODUCT AND COMPANY IDENTIFICATION

Product code MR-PRA002 (2 ml); MR-PRA005 (5 ml); MR-PRA010 (2 x 5 ml)
Product name MagReSyn[®] Protein A Microparticles
General Use MagReSyn[®] microparticles with immobilized Protein A suspended in an aqueous solution. The product is intended for biomolecule (specifically antibody) immobilization for a variety of subsequent end-user applications in research and development. This product is for research and development use only. It is not intended for any animal or human therapeutic or diagnostic use unless otherwise stated.

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2. COMPOSITION

Hazardous/Non-hazardous Components

| Chemical Name | CAS # | Weight % |
|---|------------|--------------|
| MagReSyn [®] Protein A Microparticles | ----- | 1.5% |
| Tris | 77-86-1 | <1% (50 mm) |
| Sodium Chloride | 7647-14-5 | <1% (150 mm) |
| Tween [®] 20 | 9005-64-5 | 0.025% |
| Sodium azide | 26628-22-8 | 0.05% |
| Water | 7732-18-5 | ~99% |

3. HAZARDS IDENTIFICATION

| | |
|--------------------------------------|---|
| GHS Classification: | ACUTE TOXICITY, Category 5: Warning SKIN IRRITATION/CORROSION, Category 2: Warning SERIOUS EYE DAMAGE/IRRITATION, Category 2 Warning SPECIFIC TARGET ORGAN SYSTEMIC TOXICITY (SINGLE EXPOSURE), Category 3: Warning |
| Signal Words: | WARNING |
| GHS Hazard Statements: | HEALTH HAZARDS: Causes skin and eye irritation. May be harmful if swallowed. May cause irritation of respiratory tract. ENVIRONMENTAL HAZARDS: Not classified as an environmental hazard under GHS criteria. |
| GHS Precautionary Statements: | PREVENTION: Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Avoid breathing dust/fume/gas/mist/vapors/spray. Wash hands thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. RESPONSE: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Induce vomiting only if directed to by medical personnel. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. 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 advice/attention.

IN CASE OF FIRE:

Use dry chemical, foam or other appropriate extinguishing media.

STORAGE:

Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up.

DISPOSAL:

Dispose of contents and container to appropriate waste site or reclaimed in accordance with local and national regulations.

GHS Label Elements Symbol(s):



Form Solid in an aqueous formulation

HMIS

| | |
|--------------|---|
| Health | 1 |
| Flammability | 0 |
| Reactivity | 0 |

4. FIRST AID MEASURES

Skin contact Wash or flush skin immediately and thoroughly with soap and water, If irritation develops, seek medical attention.

Eye contact Flush for 15 minutes thoroughly with plenty of water; seek medical attention.

Ingestion If ingested contact a physician; do not give anything by mouth to an unconscious person. Transport to nearest medical facility for additional treatment. Do not induce vomiting.

Inhalation Move to fresh air. If breathing becomes difficult, seek medical aid.

Notes to physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

In the event of fire, responders should follow appropriate protective measures to prevent skin contact and inhalation.

Suitable extinguishing media

Dry chemical, foam or other appropriate extinguishing media.

6. ACCIDENTAL RELEASE MEASURES

Observe all relevant local and international regulations. Avoid contact with spilled or released material.

Personal precautions

In the event of a spill or leak, use personal protective equipment to minimize contact with skin.

Keep away from heat, sparks and open flame.

Provide sufficient ventilation.

Methods for cleaning up

Clean up spill immediately using an inert absorbent material; dispose of according to applicable local, regional, or federal regulations.

7. HANDLING AND STORAGE

Handling

Avoid dust formation; avoid contact with skin and eyes.

Avoid breathing vapor, avoid contact with eyes, skin and clothing. Keep away from ignition sources. Do not eat; drink or smoke while handling.

Storage

Keep in properly labeled containers. Store in ventilated room or shade below 27°C (80°F) and away from direct sunlight. Follow all precautionary information on container label. Keep away from oxidizing agents, reducing agents, acids, alkalis, and moisture.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits

| Chemical Name | OSHA PEL (TWA) | OSHA PEL (ceiling) | ACGIH TLV | MAK |
|--|----------------|--------------------|--|-----------------------|
| MagReSyn [®] Protein A Microparticles | None | None | None | None |
| Tris | None | None | None | None |
| Sodium Chloride | None | None | None | None |
| Tween 20 | None | None | None | None |
| Sodium Azide | Vacated | None | (Ceiling) 0.29 mg/m ³ as NaN ₃ | 0.2 mg/m ³ |
| | | | (Ceiling) 0.11 ppm as HN ₃ vapor | |

Engineering measures

Ensure adequate fresh air ventilation is available, especially in confined areas; use local exhaust ventilation.

Personal protective equipment

Respiratory protection

In case of insufficient ventilation, wear particulate respiratory protection.

Hand protection

Use protective gloves to prevent unnecessary skin contact

Eye protection

Use safety glasses with side-shields or safety goggles.

Skin and body protection

Lightweight protective clothing.

Hygiene measures

Handle in accordance with good laboratory hygiene practices.

Environmental exposure controls

Prevent product from entering drains.

9. PHYSICAL AND CHEMICAL PROPERTIES

| | MagReSyn[®] Protein A Microparticles | Tris | Sodium Chloride | Tween 20 | Sodium Azide |
|-----------------------------|--|----------------------------|----------------------------|------------------------|-------------------------|
| Physical form | Solid in aqueous media | Transparent crystals | Solid | Liquid | Solid |
| Color | Black | Transparent | White | No data available | No data available |
| Odor | None | Slight characteristic odor | Odorless | No data available | No data available |
| Boiling Point | No data available | 219-220° C (426-428°F) | 1461° C (2662° F) | No data available | No data available |
| Melting Point | No data available | 171-172° C (340-342° F) | 801° C (1474° F) | No data available | Decomposes |
| Flash Point | No data available | Not applicable | Not applicable | 232° C (550° F) | No data available |
| Auto ignition temperature | No data available | Not applicable | Not applicable | No data available | No data available |
| Oxidizing properties | No data available | No data available | No data available | Strong oxidizing agent | No data available |
| Water Solubility | No data available | 550 mg/mL | 360000 mg/L | soluble | 420 mg/mL |
| pH | No data available | 7.5 | 5-8 | 7 | No data available |
| Specific Gravity | No data available | No data available | 2.165 | 1.095 | 1.85 |
| Viscosity | No data available | No data available | No data available | Not available | No data available |
| Flammability | No data available | No data available | No data available | Not available | No data available |
| Vapor Density (air =1) | Not applicable | No data available | No data available | <1.33 hPa | No data available |
| Vapor pressure | No data available | No data available | No data available | No data available | No data available |
| Lower/upper explosive limit | No data available | No data available | No data available | No data available | No data available |
| Decomposition temperature | No data available | No data available | No data available | No data available | No data available |

10. STABILITY AND REACTIVITY

| | |
|---|---|
| Stability | Stable under normal conditions of use. |
| Materials to avoid | None known. |
| Hazardous decomposition products | None expected under normal use conditions. |
| Polymerization | Hazardous polymerization is not known to occur. |

11. TOXICOLOGICAL INFORMATION

| Chemical Name | LD50 (oral) | LD50 (dermal) | LC50 (inhalation) |
|--|--|-------------------|--|
| MagReSyn [®] Protein A Microparticles | No data available | No data available | No data available |
| Tris | Low toxicity | Low toxicity | Low toxicity |
| Sodium Chloride | Low/moderate toxicity. LD50: 3450-7060 mg/kg (rat) | Low toxicity | Expected to be of low toxicity if inhaled. LC50: 20,000-20,363 mg/kg (rat) |
| Tween 20 | 40554 mg/kg (rat) | No data available | No data available |
| Sodium Azide | 27 mg/kg (mouse) | 20 mg/kg (rabbit) | No data available |

Principle Routes of Exposure/ Potential Health effects

| | |
|-------------------|---|
| Eyes | May cause eye irritation in the event of contact. |
| Skin | May cause skin irritation and/or dermatitis on contact; not a skin sensitizer. |
| Inhalation | May cause irritation of respiratory tract if vapor is inhaled. Inhalation of high concentrations may cause effects to the central nervous system. |
| Ingestion | Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea. |

Specific Effects

| | |
|------------------------------|---|
| Carcinogenic effects | No known significant effects or critical hazards. |
| Mutagenic effects | No known significant effects or critical hazards. |
| Reproductive toxicity | No known significant effect or critical hazards. |
| Sensitization | No known significant effects or critical hazards. |
| Target Organ Effects | No known significant effects or critical hazards. |

12. ECOLOGICAL INFORMATION

| | |
|----------------------------|---|
| Ecotoxicity effects | No known significant effects or critical hazards. |
| Mobility | No known significant effects or critical hazards. |
| Biodegradation | No known significant effects or critical hazards. |
| Bioaccumulation | No known significant effects or critical hazards. |

13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with local, regional, or federal regulations. Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification. Do not dispose into the environment, in drains or in water courses. Waste product should not be allowed to contaminate soil or water.

Do not dispose down drain. Sodium azide is very reactive or incompatible with metals.

14. TRANSPORT INFORMATION

| | |
|-----------------------------|---------------------------------|
| Proper shipping name | None |
| US DOT | Non-hazardous for transport |
| IATA | Non-hazardous for air transport |

15. REGULATORY INFORMATION

International Inventories

| Chemical Name | TSCA | PICCS | ENCS | DSL | NDSL | AICS |
|--|-------|-------|-------|-------|-------|-------|
| MagReSyn [®] Protein A Microparticles | ----- | ----- | ----- | ----- | ----- | ----- |
| Tris | Yes | Yes | Yes | Yes | No | Yes |
| Sodium Chloride | Yes | Yes | Yes | Yes | No | Yes |
| Tween 20 | Yes | Yes | Yes | Yes | No | Yes |
| Sodium Azide | Yes | Yes | Yes | Yes | No | Yes |

International Agency for Research on Cancer

None of the ingredients has been listed

National Toxicology Program

None of the ingredients has been listed

U.S. Federal Regulations

SARA 313

This product is not regulated under SARA.

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product does not contain HAPs.

California Proposition 65

This product does not contain any known carcinogens or reproductive toxicants.

16. OTHER INFORMATION

R-phrase(s)

- R38 Irritating to skin.
- R41 Risk of serious damage to eyes.

S-phrase(s)

- S-2 Keep out of the reach of children.
- S-7 Keep container tightly closed.
- S-9 Keep container in a well-ventilated place.
- S-16 Keep away from sources of ignition - No Smoking.

This material is sold for research and development purposes only. It is not intended for food, drug, household, agricultural, or cosmetic use. An individual technically qualified to handle potentially hazardous chemicals must supervise the use of this material.

This information is based on our present knowledge and is subject to revision.