



Material Safety Data Sheet

Prepared on: May 5, 2016

MagReSyn[®] Chymotrypsin

1. PRODUCT AND COMPANY IDENTIFICATION

Product codes MR-CHY002 (2 ml); MR-CHY005 (5 ml); MR-CHY010 (2 x 5 ml)
Product name MagReSyn[®] Chymotrypsin Microparticles
General Use MagReSyn[®] microparticles with immobilized trypsin suspended in 50 mM acetic acid. The product is intended for enzymatic digestion of protein samples for 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 [®] Chymotrypsin Microparticles	-----	<1.0%
Acetic acid	64-19-7	<0.3%
Water	7732-18-5	>98%

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 [®] Chymotrypsin Microparticles	None	None	None	None
Acetic acid	10 ppm	None	15ppm	None

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 [®] Chymotrypsin Microparticles	Acetic acid
Physical form	Solid in aqueous media	Liquid
Color	Black	No data available
Odor	None	Pungent, vinegar-like
Boiling point	No data available	118.1°C
Melting point	No data available	16.6°C
Flash point	No data available	39°C (Closed up); 43°C (OPEN UP)
Auto ignition temperature	No data available	463°C
Oxidizing properties	No data available	Strong oxidizing agent
Water solubility	No data available	soluble
pH	No data available	2
Specific gravity	No data available	1.049
Viscosity	No data available	No data available
Flammability	No data available	Flammable
Vapor density (air =1)	Not applicable	2.07
Vapor pressure	No data available	1.5kPa
Lower/upper explosive limit	No data available	No data available
Decomposition temperature	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 [®] Chymotrypsin Microparticles	No data available	No data available	No data available
Sodium Phosphate	No data available	No data available	No data available
Acetic acid	Acute toxicity. LD50: 3310-7060 mg/kg (rat)	Acute toxicity. LD50: 1060 mg/kg (rabbit)	Expected to be of low toxicity if inhaled. LC50: 5620 mg/kg (1 h, mouse)

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 (lung corrosive)
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting

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 effects 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 [®] Chymotrypsin Microparticles	-----	-----	-----	-----	-----	-----
Acetic acid	Yes	Yes	Yes	Yes	No	Yes

TSCA- United States Toxic Substances Control Act Section 8(b) Inventory

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

For: R-phrase(s)

R38 Irritating to skin.

R41 Risk of serious damage to eyes.

For: 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.