Safety data sheet

REACH: Regulation (EC) No 1907/2006 (in particular as amended by Regulation (EU) No. 2015/830 with respect to SDSs) & CLP: Regulation (EC) No 1272/2008

Printing date 09.10.2025 *Version number 2 (replaces version 1)* *Revision: 09.10.2025*

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SECTION 1: Identification of the substance/mixture and of the company/undertaking

· **1.1 Product identifier**

· **Trade name: MagReSyn® ZrO_2**

· **Article number:** MR-ZRD002 (2 ml); MR-ZRD005 (5 ml); MR-ZRD010 (2 x 5 ml)
· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
· **Technical function**
· **Product Description:** Magnetic microparticles for phosphopeptide enrichment
· **Application of the substance / the mixture**
Magnetic microparticles suspended in an aqueous solution with ethanol. The product is intended for biomolecule (specifically phosphopeptide) immobilization for a variety of subsequent end-user applications in research and development. This product is for research and development use only.
· **Uses advised against**
It is not intended for any animal or human therapeutic or diagnostic use unless otherwise stated.

· **1.3 Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
ReSyn Biosciences Pty Ltd
Building 20
CSIR
Meiring Naude Road
Brummeria
Pretoria
South Africa
0184
+2763 358 5538
· **1.4 Emergency telephone number:** +2763 358 5538

SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**
· **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
· **Hazard pictograms**



GHS02

· **Signal word** Danger
· **Hazard statements**
H225 Highly flammable liquid and vapour.
· **Precautionary statements**
P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read carefully and follow all instructions.

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P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof [electrical/ventilating/lighting] equipment.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

· ***Unknown acute toxicity:***
This value refers to knowledge of known, established toxicological or ecotoxicological values.
0 % of the mixture consists of component(s) of unknown toxicity.
Contains 0 % of components with unknown hazards to the aquatic environment.
· ***Classification system:*** NFPA/HMIS Definitions: 0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme
· ***2.3 Other hazards***
· ***Results of PBT and vPvB assessment***
· ***PBT:*** Not applicable.
· ***vPvB:*** Not applicable.

SECTION 3: Composition/information on ingredients

· ***3.2 Mixtures***
· ***Description:*** Mixture of substances listed below with nonhazardous additions.

· ***Dangerous Components:***

CAS: 64-17-5 Index number: 603-002-00-5 RTECS: KQ 6300000	Ethanol	Flam. Liq. 2, H225	10–30%

· ***Additional information:***
The exact percentages of the ingredients of this mixture are considered to be proprietary and are withheld in accordance with the provisions of paragraph (i) of §1910.1200 of 29 CFR 1910.1200 Trade Secrets.
For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

· ***4.1 Description of first aid measures***
· ***General information:*** If symptoms persist, call a physician.
· ***After inhalation:*** Supply fresh air; consult doctor in case of complaints.
· ***After skin contact:***
Wash with soap and water.
If skin irritation occurs, consult a doctor.
· ***After eye contact:***
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
If eye irritation occurs, consult a doctor.
If easy to do so, remove contact lenses if worn.
· ***After swallowing:*** If swallowed and symptoms occur, consult a doctor.
· ***4.2 Most important symptoms and effects, both acute and delayed*** No further relevant information available.
· ***4.3 Indication of any immediate medical attention and special treatment needed*** Treat symptomatically.

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SECTION 5: Firefighting measures

· ***5.1 Extinguishing media***
· ***Suitable extinguishing agents:*** CO2, sand, extinguishing powder. Do not use water.
· ***For safety reasons unsuitable extinguishing agents:*** Water with full jet
· ***5.2 Special hazards arising from the substance or mixture*** Flammable liquid and vapour.

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· ***5.3 Advice for firefighters***
As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear to prevent contact with skin and eyes.

SECTION 6: Accidental release measures

· ***6.1 Personal precautions, protective equipment and emergency procedures***
Wear protective equipment. Keep unprotected persons away.
· ***6.2 Environmental precautions:***
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
· ***6.3 Methods and material for containment and cleaning up:***
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to section 13.
Ensure adequate ventilation.
· ***6.4 Reference to other sections***
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

· ***7.1 Precautions for safe handling*** *No special precautions are necessary if used correctly.*
· ***Information about fire - and explosion protection:***
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Protect from heat.

· ***7.2 Conditions for safe storage, including any incompatibilities***
· ***Storage:***
· ***Requirements to be met by storerooms and receptacles:*** *Store in a cool location.*
· ***Information about storage in one common storage facility:*** *Not required.*
· ***Further information about storage conditions:***
Keep container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.
· ***7.3 Specific end use(s)*** *No further relevant information available.*

SECTION 8: Exposure controls/personal protection

· ***8.1 Control parameters***
· ***Ingredients with limit values that require monitoring at the workplace:***
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
· ***Additional information:*** *The lists valid during the making were used as basis.*

· ***8.2 Exposure controls***
Ventilation must be adequate to maintain the ambient workplace atmosphere below the exposure limit(s) outlined in the SDS. Where acceptable concentrations cannot be maintained by general mechanical ventilation, local exhaust ventilation is recommended.
· ***Appropriate engineering controls*** *No further data; see section 7.*
· ***Individual protection measures, such as personal protective equipment***
· ***General protective and hygienic measures:***
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing

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Wash hands before breaks and at the end of work.
Avoid contact with the eyes.
· ***Respiratory protection:*** *Not required.*
· ***Hand protection***



Protective gloves

· ***Material of gloves***
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
· ***Penetration time of glove material***
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· ***Eye/face protection***



Tightly sealed goggles

· ***Environmental exposure controls*** *None*

SECTION 9: Physical and chemical properties

· ***9.1 Information on basic physical and chemical properties***
· ***General Information***

· ***Physical state***	*Liquid*
· ***Colour:***	*Black*
· ***Odour:***	*Slight*
· ***Odour threshold:***	*Not determined.*
· ***Melting point/freezing point:***	*Undetermined.*
· ***Boiling point or initial boiling point and boiling range***	*Undetermined.*
· ***Flammability***	*Highly flammable.*
· ***Lower and upper explosion limit***	
· ***Lower:***	*3,5 Vol % (64-17-5 Ethanol)*
· ***Upper:***	*15 Vol % (64-17-5 Ethanol)*
· ***Flash point:***	*16 °C (64-17-5 ALCOHOL SDA 40B)*
· ***Auto-ignition temperature:***	*362,8 °C (64-17-5 ALCOHOL SDA 40B)*
· ***Decomposition temperature:***	*Not determined.*
· ***pH***	*Not determined.*
· ***Viscosity:***	
· ***Kinematic viscosity***	*Not determined.*
· ***Dynamic:***	*Not determined.*
· ***Solubility***	
· ***water:***	*Fully miscible.*
· ***Partition coefficient n-octanol/water (log value)***	*Not determined.*
· ***Vapour pressure at 20 °C:***	*59 hPa (64-17-5 Ethanol)*
· ***Density and/or relative density***	
· ***Density:***	*Not determined.*
· ***Relative density***	*Not determined.*
· ***Vapour density***	*Not determined.*

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· **9.2 Other information**

· **Appearance:**	
· **Form:**	Suspension
· **Important information on protection of health and environment, and on safety.**	
· **Ignition temperature:**	Product is not selfigniting.
· **Explosive properties:**	Product is not explosive. However, formation of explosive air/ vapour mixtures are possible.
· **Solvent content:**	
· **Organic solvents:**	20,0 %
· **VOC (EC)**	20,00 %
· **Solids content:**	5,0 %
· **Change in condition**	
· **Softening point/range**	
· **Oxidising properties**	None
· **Evaporation rate**	Not determined.

· **Information with regard to physical hazard classes**

· **Flammable liquids** Highly flammable liquid and vapour.

SECTION 10: Stability and reactivity

· **10.1 Reactivity**
The product is stable under normal conditions.
No further relevant information available.
· **10.2 Chemical stability** Stable under normal conditions.
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **10.3 Possibility of hazardous reactions** No dangerous reactions known.
· **10.4 Conditions to avoid** Heat, flame and ignition sources.
· **10.5 Incompatible materials:** No further relevant information available.
· **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

· **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
· **Acute toxicity** Based on available data, the classification criteria are not met.

· **LD/LC50 values relevant for classification:**		
64-17-5 Ethanol		
Oral	LD50	7.060 mg/kg (Rat)
Inhalative	LC50/4 h	20.000 mg/l (Rat)
	LC50/96 hours	12.900–15.300 Mg/l (trout)

· **Primary irritant effect:**
· **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
· **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
· **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
· **Carcinogenicity** Based on available data, the classification criteria are not met.
· **Reproductive toxicity** Based on available data, the classification criteria are not met.
· **STOT-single exposure** Based on available data, the classification criteria are not met.
· **STOT-repeated exposure** Based on available data, the classification criteria are not met.
· **Aspiration hazard** Based on available data, the classification criteria are not met.

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· **11.2 Information on other hazards**

· **Endocrine disrupting properties**
None of the ingredients is listed.

SECTION 12: Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:**	
64-17-5 Ethanol	
EC50	34.900 mg/kg (daphnia)

· **12.2 Persistence and degradability** No further relevant information available.
· **12.3 Bioaccumulative potential** No further relevant information available.
· **12.4 Mobility in soil** No further relevant information available.
· **12.5 Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **12.6 Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.
· **12.7 Other adverse effects**
· **Additional ecological information:**
· **General notes:**
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
· **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
Observe all federal, state and local environmental regulations when disposing of this material.
· **Waste disposal key:** US EPA RCRA waste code D001 (ignitability characteristic).

· **European waste catalogue**	
HP3	Flammable

· **Uncleaned packaging:**
· **Recommendation:** Disposal must be made according to official regulations.
· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

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SECTION 14: Transport information

· **14.1 UN number or ID number**
· **ADR, IMDG, IATA** UN1170
· **14.2 UN proper shipping name**
· **ADR** 1170 ETHANOL (ETHYL ALCOHOL)
· **IMDG** ETHANOL (ETHYL ALCOHOL)
· **IATA** Ethanol

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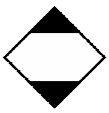
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· ***14.3 Transport hazard class(es)***

· ***ADR***





Limited Quantity

· ***Class***	*3 Flammable liquids.*
· ***Label***	*3*

· ***IMDG, IATA***





Limited Quantity

· ***Class***	*3 Flammable liquids.*
· ***Label***	*3+ID8000*
· ***14.4 Packing group***	
· ***ADR, IMDG, IATA***	*II*
· ***14.5 Environmental hazards:***	*Not applicable.*
· ***14.6 Special precautions for user***	*Warning: Flammable liquids.*
· ***Hazard identification number (Kemler code):***	*33*
· ***EMS Number:***	*F-E,S-D*
· ***Stowage Category***	*A*
· ***14.7 Maritime transport in bulk according to IMO instruments***	*Not applicable.*

· ***Transport/Additional information:***

· ***ADR***	
· ***Limited quantities (LQ)***	*1L*
· ***Transport category***	*2*
· ***Tunnel restriction code***	*D/E*

· ***IMDG***	
· ***Limited quantities (LQ)***	*1L*
· ***Excepted quantities (EQ)***	*Code: E2* *Maximum net quantity per inner packaging: 30 ml* *Maximum net quantity per outer packaging: 500 ml*

· ***IATA***	
· ***Remarks:***	*Code: E1* *Excepted Quantity Shipment* *Code Maximum Quantity (inner package) Maximum Quantity per outer package* *E0 Not permitted Not*

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· | *permitted*
E1 30g / 30ml 1Kg / 1L
E2 30g / 30ml 500g / 500ml
E3 30g / 30ml 300g / 300ml
E4 1g / 1ml 500g / 500ml
E5 1g / 1ml 300g / 300ml

· **UN "Model Regulation":** *UN 1170 ETHANOL (ETHYL ALCOHOL), 3, II*

SECTION 15: Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **Proposition 65**

· **Chemicals known to cause cancer:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients is listed.

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** *None of the ingredients is listed.*
· **Seveso category** *P5c FLAMMABLE LIQUIDS*
· **Qualifying quantity (tonnes) for the application of lower-tier requirements** *5.000 t*
· **Qualifying quantity (tonnes) for the application of upper-tier requirements** *50.000 t*
· **REGULATION (EC) No 1907/2006 ANNEX XVII** *Conditions of restriction: 3*

· **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**
None of the ingredients is listed.

· **REGULATION (EU) 2019/1148**

· **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**
None of the ingredients is listed.

· **Annex II - REPORTABLE EXPLOSIVES PRECURSORS**
None of the ingredients is listed.

· **Regulation (EC) No 273/2004 on drug precursors**
None of the ingredients is listed.

· **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**
None of the ingredients is listed.

· **15.2 Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.*

SECTION 16: Other information

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied, and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

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· ***Relevant phrases***
H225 Highly flammable liquid and vapour.
· ***Contact:*** *Access GHS, LLC - 888-363-4870 - Team@access-ghs-sds.com*
· ***Date of previous version:*** *09.10.2025*
· ***Version number of previous version:*** *1*
· ***Abbreviations and acronyms:***
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 2: Flammable liquids – Category 2
· **** Data compared to the previous version altered.***