

SAFETY DATA SHEET

SECTION 1: IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING (*)

- 1.1 PRODUCT IDENTIFIER : Ion exchange resin in wet form
PRODUCT NAME : **ReliZyme HFA403/S – HFA403/M**
- 1.2 RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST
Relevant identified uses : Enzyme immobilization
Uses advised against : None
- 1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET
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SECTION 2. HAZARDS IDENTIFICATION (*)

- 2.1 CLASSIFICATION OF THE SUBSTANCE OR MIXTURE
2.1.1 Classification according to Regulation (EC) No. 1272/2008 (CLP/GHS)
Classification : not classified

This product does not meet the criteria for classification in any hazard class according to Regulation (EC) No. 1272/2008 on classification, labelling and packaging of substances and mixtures.

- 2.2 LABEL ELEMENTS
Hazard pictogram(s) : not applicable
Signal word : no signal word
Hazard statement(s) : no known significant effects or critical hazards
Precautionary statement(s) : not applicable
Supplement hazard information : not applicable

2.3 OTHER HAZARDS

Results of PBT and vPvB

This product does not meet the PBT and vPvB criteria

Other hazards which did not result in classification

Material can cause irritation to eyes. Prolonged or repeated skin contact can cause slight irritation. Do not step on spilled resins because the resins are very slippery.

Environmental risks

Being non volatile and insoluble, there is no risk to the air and water compartment. Material expected stable in the ground. No biological degradation observed.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS (*)

3.2 MIXTURE

Identification name	CAS No.	EINECS No.	Weight % range
Crosslinked copolymer of methacrylate containing amino and epoxy groups	31743-77-8 2425-79-8	Not applicable	25 – 35
Water	7732-18-5	231-791-2	65 – 75

Within the present knowledge of the supplier, this product does not contain any hazardous ingredient in quantities requiring reporting in this section, in accordance with EU or national regulations.

SECTION 4. FIRST-AID MEASURES (*)

4.1 DESCRIPTION OF FIRST AID MEASURES

<i>EYE CONTACT</i>	:	Eye-flush with water for more than 15 minutes. If necessary, get medical attention.
<i>SKIN CONTACT</i>	:	Wash with water and soap. In case of irritation, get medical attention.
<i>INHALATION</i>	:	Possibility of inhalation is low. Take the patient to fresh air; in case of difficulty in breathing, medical advice is required.
<i>INGESTION</i>	:	Not specially necessary in case of small amount. In case of stomachache, get medical attention.

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

See Section 11 for more detailed information on health effects.

4.3 INDICATIONS OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

See Section 11 for more detailed information on health effects.

SECTION 5. FIREFIGHTING MEASURES (*)

5.1 EXTINGUISHING MEDIA

Suitable extinguishing media	:	dry chemical, water spray, CO ₂
Unsuitable extinguishing media	:	none known

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Hazards from the substance or mixture	:	No specific fire or explosion hazard
Hazardous combustion products	:	CO _x , NO _x

5.3 ADVICE FOR FIREFIGHTERS

Special protective equipment for firefighters	:	Wear self-contained breathing apparatus and fully protective gear.
Special firefighting procedures	:	Keep unnecessary people away. In the event of fire, do not breathe fumes. If possible without risk, move containers from fire area. Prevent runoff from fire control or dilution from entering streams, sewers or drinking water supply.

SECTION 6. ACCIDENTAL RELEASE MEASURES (*)

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

6.1.1 For not-directly involved

personnel : Resins may be slippery. Do not step on the spilled resins. Avoid contact with skin and eyes. Evacuate non-essential personnel. Provide adequate ventilation.

6.1.2 For directly involved

personnel : Wear appropriate personal protective equipment (see Section 8)

6.2 ENVIRONMENTAL PRECAUTIONS : Prevent spilled resins from entering sewers, watercourses or drinking water supply.

6.3 METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

6.3.1 Advices on how to contain

a spill : cover the drains

6.3.2 Advices on how to clean up

a spill : Vacuum or sweep up and place in designated, labelled and closed waste containers; have them disposed of by experts.

6.3.3 Other information

: not available

6.4 REFERENCE TO OTHER SECTIONS : See Section 1 for emergency contact information
See Section 8 for information on appropriate personal protective equipment
See Section 13 for additional waste treatment information

SECTION 7. HANDLING & STORAGE (*)

7.1 PRECAUTIONS FOR SAFE HANDLING : Wear safety glasses and protective gloves to avoid eye or skin contact (see Section 8). Resin handling should be done in well-ventilated, upwind areas. Eye-washing facilities must be set in the working area. Do not step on spilled resins because the resins are very slippery. Avoid high temperature, sparks and flames. Also avoid contact or mixture with oxidizing substances. Keep in the original containers and keep them tightly closed when not in use. Do not eat, drink and smoke in the areas where the material is handled. Do not ingest. Observe good personal hygiene measures such as washing the hands after handling the material and before eating, drinking and/or smoking.

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES:

Store in accordance with local regulations. Store in their original containers in a cool, dry, well-ventilated location at a temperature in the range of 4 ÷ 6 °C.

Avoid freezing (≤ 0 °C) and dehydration (≥ 40 °C). Avoid sunlight exposure. Keep the containers tightly closed. Keep away from oxidizing substances and separated from foodstuffs. Open containers should be resealed and kept upright to prevent spills. Prevent by appropriate containment the release of the mixture to the environment, keeping away from drains.

7.3 SPECIFIC END USE(S)	:	Enzyme immobilization
Recommendations	:	not available
Industrial sector specific solutions:	:	not available

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION (*)

8.1 CONTROL PARAMETERS

OCCUPATIONAL EXPOSURE LIMIT	:	ACGIH TLV	(TWA)	not established
			(STEL)	not established

8.2 EXPOSURE CONTROLS :

8.2.1. APPROPRIATE ENGINEERING CONTROLS: If resin handling is made in-house, general and/or local exhaust ventilation is preferred.

8.2.2. PERSONAL PROTECTION EQUIPMENT

8.2.2.1 Eye and face protection : Recommended: safety glasses with side shields

8.2.2.2 Skin protection

Hand protection : Chemical resistant protective rubber gloves in accordance with the appropriate CEN standard should be worn any time a chemical is handled to prevent skin contact

Other skin protection : Wear appropriate clothing to prevent repeated or prolonged skin contact, selected in accordance to the task being performed

8.2.2.3 Respiratory protection : normally not needed.

Should a risk assessment indicate that it is necessary, use a properly fitted air-purifying or air-fed respirator complying with the appropriate CEN standard.

8.2.2.4 Thermal hazards : none known

8.2.2.5 Hygiene measures : Ensure that eye-washing facilities are set in the working area. Handle the material in accordance with good industrial hygiene and safety practices. Observe good personal hygiene measures such as washing the hands after the handling the material and before eating, drinking and/or smoking. Wash clothing and protective equipment before reusing to remove contaminants.

8.2.3 ENVIRONMENTAL EXPOSURE

CONTROLS : Prevent by appropriate containment the release of the mixture to the environment, keeping away from drains.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES (*)

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	white opaque spherical beads
Odour	:	odourless
Odour threshold	:	not available
pH	:	not applicable
Melting point / freezing point	:	not applicable
Initial boiling point and boiling range	:	not applicable
Flash point	:	not applicable
Evaporation rate	:	not applicable
Flammability (solid, gas)	:	not applicable
Upper/lower flammability	:	not available
Explosive limits	:	not applicable

Vapour pressure	:	none
Vapour density	:	none
Relative density	:	1.1 g/ml
Solubility	:	insoluble in water and organic solvents
Partition coefficient (n-octanol/water)	:	not applicable
Auto-ignition temperature	:	not applicable
Decomposition temperature	:	not available
Viscosity	:	not available
Explosive properties	:	not applicable
Oxidizing properties	:	not applicable

9.2 OTHER INFORMATION : No additional information

SECTION 10. STABILITY AND REACTIVITY (*)

10.1 REACTIVITY	:	the product is stable and not reactive under normal conditions of use, storage and transport
10.2 CHEMICAL STABILITY	:	chemically stable under normal conditions of use, under storage and transport at ambient temperatures
10.3 POSSIBILITY OF HAZARDOUS REACTIONS	:	No hazardous reaction will occur under normal conditions of use and storage
10.4 CONDITIONS TO AVOID	:	drying ($\geq 40^{\circ}\text{C}$) and freezing ($\leq 0^{\circ}\text{C}$). Avoid high temperature, sparks and flames and sunlight exposure.
10.5 INCOMPATIBLE MATERIALS	:	strong oxidizing substances such as nitric acid, that may cause hazardous reactions
10.6 HAZARDOUS DECOMPOSITION PRODUCTS (except burning)	:	no hazardous decomposition product will be produced under normal conditions of use, storage and transport

SECTION 11. TOXICOLOGICAL INFORMATION (*)

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS

11.1.2 MIXTURE

Acute toxicity	:	not classified
Skin corrosion/irritation	:	repeated and prolonged skin contact may cause mild transient irritation
Serious eye damage/irritation	:	direct contact may cause mild eye irritation
Respiratory or skin sensitization:	:	not classified
Germ cell mutagenicity	:	not classified
Carcinogenicity	:	not classified
Reproductive toxicity	:	not classified
STOT – single exposure	:	not classified
STOT – repeated exposure	:	not classified
Aspiration hazard	:	not classified

11.1.5 INFORMATION ON LIKELY ROUTES OF EXPOSURE

Ingestion	:	May cause discomfort if swallowed
Inhalation	:	Inhalation of dust might cause transient respiratory irritation
Skin contact	:	May cause mild transient irritation
Eye contact	:	Direct contact may cause eye irritation

SECTION 12. ECOLOGICAL INFORMATION (*)

12.1 TOXICITY	:	The product presents little or no hazard to the ecosystem. Prevent spilled resins from entering sewers, watercourses or drinking water supply.
12.2 PERSISTENCE AND DEGRADABILITY:		no information available
12.3 BIOACCUMULATIVE POTENTIAL	:	no information available
12.4 MOBILITY IN SOIL	:	Virtually insoluble in water. The product is not volatile
12.5 RESULTS OF PBT AND vPvB	:	This product does not meet the PBT and vPvB criteria
12.6 OTHER ADVERSE EFFECTS	:	no information available

SECTION 13. DISPOSAL CONSIDERATIONS (*)

13.1 WASTE TREATMENT METHODS

PRODUCT

Methods of disposal	:	Avoid spilled resins from entering sewers, watercourses or drinking water supply. Both product residues and uncleaned empty containers should be sealed, labelled and disposed of by either incineration or landfill, or recycled under the conditions which meet local, regional and national laws and regulations relating to waste in each country. For disposal within the EC, it is up to the user to assign to the waste the proper code according to the European List of Wastes (LoW), on the basis of the application for which the product was used.
Hazardous waste	:	within the present knowledge of the supplier, the product is not classified as hazardous waste, as defined by the EU Directive 2008/98/EC.

PACKAGING

Methods of disposal	:	Waste packaging should be recycled wherever possible. Incineration or landfill should only be considered when recycling is not feasible.
Special precautions	:	Both the product and its containers must be disposed of in a safe way and according to the relevant national and local regulations. Empty containers and liners might retain some product residues: avoid spilled resins from entering sewers, watercourses or drinking water supply.

SECTION 14. TRANSPORT INFORMATION (*)

Temperature during transportation must be kept in the range of 4 ÷ 6°C. Avoid freezing ($\leq 0^{\circ}\text{C}$) and dehydration ($\geq 40^{\circ}\text{C}$). Avoid high temperature, sparks and flames. Keep away from oxidizing substances. Keep separated from foodstuffs.

Not classified as dangerous cargo.

In addition, please follow all regulations in your country

FURTHER INFORMATION

ADR	:	not applicable
RID	:	not applicable

ADN	:	not applicable
IATA	:	not applicable
IMDG	:	not applicable
14.1 UN NO.	:	not applicable
14.2 UN PROPER SHIPPING NAME	:	not applicable
14.3 TRANSPORT HAZARD CLASS(es)	:	not applicable
14.4 PACKING GROUP	:	not applicable
14.5 ENVIRONMENTAL HAZARDS	:	none
14.6 SPECIAL PRECAUTIONS FOR USER:	:	not regulated
14.7 TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL 73/78 AND THE IBC CODE	:	not available

SECTION 15. REGULATORY INFORMATION (*)

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

EU REGULATIONS:

- **EU Regulation (EC) No. 1907/2006 (REACH)**
Annex XIV – List of substances subject to authorization
Not listed
Substances of very high concern (SVHC)
Not listed
Annex XVII – Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles
Not applicable
- **EU Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer**
Not applicable
- **EU Regulation (EC) No. 850/2004 on persistent organic pollutants**
Not applicable
- **EU Regulation (EC) No. 649/2012 concerning the export and import of dangerous chemicals**
Not applicable

Other Regulations

This product does not require a label according to the EU Regulations 1907/2006/EC, 1272/2008/EC

National Regulations

Follow national regulations for work with chemical substances.

15.2 CHEMICAL SAFETY ASSESSMENT : No Chemical Safety Assessment has been carried out for this mixture by the supplier

SECTION 16. OTHER INFORMATION (*)

HISTORY

Date of issue	:	04/06/2015
Revision n°	:	4
Date of previous issue	:	06/02/2015

(*) This symbol identifies the revised sections

ABBREVIATIONS AND ACRONYMS : ACGIH = American Conference of Governmental Industrial

Hygienists

ADN = European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

ADR = European Agreement concerning the International Carriage of Dangerous Goods by Road

CAS = Chemical Abstract Service number

CEN = European Committee for Standardisation

CLP = Classification, Labelling and Packaging Regulation (Regulation EC No. 1272/2008)

CMR = Carcinogen, Mutagen, or Reproductive Toxicant

ECHA = European Chemical Agency

EINCES = European Inventory of Existing Commercial Substances

GHS = Globally Harmonised system

IATA = International Air Transport Association

IBC code = International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk

IMDG = International Maritime Dangerous Goods

PBT = Persistent, Bioaccumulative and Toxic

STEL = short-term exposure limit

STOT = Specific target organ toxicity

TLV = Threshold Limit Value

TWA = time-weighted average

vPvB = Very Persistent and Very Bioaccumulative

REFERENCES : ECHA Guidance on the compilation of safety data sheets – Version 2.1 February 2014 and Regulation (EU) No. 830/2015.

CLASSIFICATION AND PROCEDURE USED TO DERIVE THE CLASSIFICATION FOR MIXTURES ACCORDING TO REGULATION (EC) 1272/2008 (CLP) : not classified

RELEVANT H-PHRASES AND/OR P-STATEMENTS DEFINITIONS : No EU Risk H-Phrases and/or P-Statements were identified for this product

FURTHER INFORMATION : This -SDS was prepared in compliance with Regulations (EC) No. 1907/2006/EC, 1272/2008/EC and Regulations (EU) No. 286/2011, 830/2015.
This product complies in its composition with the EC Resolution RESAP (2004) 3.
This mixture is exempted from Registration according to the provisions of Title II and VI as indicated in Article 2(9) of REACH.

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