

Material Safety Data Sheet
Document no: MSDS-PIG-Sperm Swim-up medium

Product: NaturARTs®-PIG-SUM **Page 1/3**

Date first created: 2015/12/01 **Date revised: 2020/04/09**

1. Identification of Substance/Preparation and of the Company

Product name	NaturARTs-PIG-SUM	Cat. No.:	NaturARTs-SUM
Content	Sperm preparation medium (swim-up method)	Presentation	Liquid refrigerated (component 1 and 2)
Product use	To select competent spermatozoa for fertilization	Application	Research use only
Species to be used	Preferably porcine		
Manufacturer	EmbryoCloud. Pleiades Bldg., 2 nd floor. Campus Espinardo, University of Murcia, 30100 Murcia, Spain.		

2. Composition / Information on Ingredients

NaturARTs-PIG-SUM is a novel culture media to select competent sperm by the swim up method. This medium is formulated with the ideal mixture of components and viscosity mimicking the physiological environment where the reproductive process occurs.

NaturARTs PIG-SUM is based on two components:

- Component 1: 40ml, 80ml
- Component 2: 10ml, 20ml

Protein-free.
Contains antibiotics.

3. Hazard Identification

N/A.

4. First-Aid Measures

Inhalation: Not a likely source of exposure.

Ingestion: Wash out mouth with water. If swallowed consult a physician.

Skin: Wash with soap and water after each contact.

Eyes: Flush with copious amounts of water. Assure adequate flushing by separating the eyelids with fingers. If irritation develops, consult a physician.

5. Fire Fighting Measures

Fire: Not considered to be a fire hazard.

Extinguishing media: Dry chemical, foam, carbon dioxide or water spray.

6. Accidental Release Measures

Absorb on suitable absorbent, such as paper tissue.

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7. Handling, Storage and Instructions of Use

Storage temperature

Component 1: store at 2-8°C for a maximum of one month. Do not freeze.

Component 2: store at 2-8°C for a maximum of one month. Do not freeze. During storage, some precipitation of components might appear. Warm at 37°C to dissolve.

Preparation instructions

To prepare the final working medium NaturARTs PIG, mix four parts of component 1 with one part of component 2 in a sterile glass container. Use within 24 hours.

Supplement NaturARTs-PIG-SUM either with 1% NaturARTs-POF-LF (our recommendation) or 0.5% Bovine Serum Albumin (BSA).

Instructions of use

A) Frozen-thawed semen

1. Thaw one semen straw (30sec, 38°C).
2. Transfer the straw content to a tube.
3. Add carefully 2ml NaturARTs-PIG-SUM warmed at 38°C and mix well the sperm solution.
4. Add 1 NaturARTs-PIG-SUM warmed at 38°C to a new tube and 1 ml sperm solution to the bottom of the tube.
5. Incubate at the tube at 38°C for 20 min at a 45° angle.
6. Aspirate 0.5 ml from the top of the tube and transfer to a tube.
7. Adjust to the desired sperm concentration for IVF.

B) Fresh semen

1. Dilute semen 1:1 (v/v) with a sperm diluent (Beltsville Thawing Solution or similar).
2. Prepare a conical tube with 1ml NaturARTs-PIG-SUM and lay 1 ml sperm solution below the column of medium.
3. Incubate at the tube at 38°C for 20 min at a 45° angle.
4. Aspirate 0.5 ml from the top of the tube and transfer to a tube.
5. Adjust to the desired sperm concentration for IVF.

Spermatozoa selected by swim-up show higher rates of normal morphology and motility, and decreased DNA fragmentation and methylation levels than other sperm selection methods¹ and increases the yield of pig IVF².

8. Exposure Controls/Personal Protection

Avoid contact with skin and eyes. Wash thoroughly after handling.

9. Physiological and Chemical properties

Appearance: Liquid

Sterility: sterile filtered

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Suitability: suitable for cell culture
Odour: odourless
Boiling point: N/A
Vapour Pressure: N/A
Specific Gravity: N/A
Vapour Density: N/A
Melting Point: N/A
Solubility H₂O: N/A
Evaporation Rate: N/A
Flash Point: N/A
pH: 7.4-7.8 at room temperature and at 38.5°C.
Osmolarity: 320-340 mOsm

10. Stability and Reactivity

Stability: Stable.
Conditions to avoid: None known.
Hazardous Decomposition or by-products: None known.
Hazardous polymerisation: Not expected to occur.

11. Toxicological Information

No information available.

12. Ecological Information

No ecological information available.

13. Disposal Considerations

Dispose of as medical waste.

14. Transportation Information

Classified as non-hazardous for transport.

15. Regulatory Information

N/A.

16. Other Information

The information contained herein is furnished without warranty of any kind. Users should consider these data only as a supplement to other information gathered by them and must take independent determinations of the suitability and completeness of information from all other sources to assure proper use and disposal of these materials and the safety and health of employees and customers. EmbryoCloud shall not be held liable for any damage resulting from handling or from contact with its products.

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17. References

1. Kim et al. 2015. Fertility and Sterility 103: 1425-1431. doi: 10.1016/j.fertnstert.2015.03.007.
 2. Cánovas et al. 2017. Elife 1;6. pii: e23670. doi: 10.7554/eLife.23670.
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