

SAFETY DATA SHEET



Biosensors, ForteBio

Section 1. Identification

GHS product identifier	: Biosensors, ForteBio
Other means of identification	: Description / Mfg. Reference (AHC) Anti-hIgG Fc Capture / 18-0015 (AHQ) Anti-Human IgG Fc / 18-0001 (AMC) Anti-Mouse IgG Fc Capture / 18-0025 (AMQ) Anti-Murine IgG Fv / 18-0007 (APS) Aminopropylsilane / 18-0010 (AR2G) Amine Reactive 2 nd Generation / 18-0026 (FAB) Anti-Human Fab-CH1 / 18-0030 (FAB2G) Anti-Human Fab-CH1 2 nd Generation / 18-0039 (FLG) Anti-FLAG / 18-0032 (GST) Anti-GST / 18-0027 (HCP) Anti-CHO HCP / 18-0021, 18-0045 (HIS) Anti-Penta-HIS / 18-0020 (HIS1K) Anti-Penta-HIS / 18-0038 (HIS2) Anti-HIS / 18-0034 (NTA) Ni-NTA / 18-0029 (ProA) Protein A / 18-0004, 18-0028 (ProG) Protein G / 18-0022 (ProL) Protein L / 18-0023 (RPA) Residual Protein A / 18-0016, 18-0044 (SA) Streptavidin / 18-0009, 18-0009IQ (SAX) High Precision Streptavidin / 18-0037 (SSA) Super Streptavidin / 18-0011 (IQOQ) Calibration Biosensors / 18-0040 (PQQ) Performance Qualification Biosensors, Quantitation / 18-0042 (PQK) Performance Qualification Biosensors, Kinetics / 18-0043 (GlyS) Sialic Acid / 18-0046 (SAX2) High Precision Streptavidin 2.0 / 18-0047
Part number/Product code	: Not available.
Product description	: All ForteBio biosensor products are optical fiber-based sensor products for laboratory and research uses. Each biosensor is made of a short piece of glass fiber attached to an acrylonitrile butadiene styrene (ABS) plastic hub. The tip of each glass fiber-based biosensor acts as a surface substrate and is coated with trace amounts of dried purified proteins, antibodies, or similar biological molecules, for the detection and binding of various biological molecules. All biosensors are stored in trays comprised of an acrylonitrile butadiene styrene (ABS) top cover and a polyester tray bottom. Each tray is supplied enclosed in a sealed foil pouch.
Product type	: Solid.
Supplier's details	: Molecular Devices, LLC dba ForteBio 47661 Fremont Boulevard Fremont, CA 94538 USA Tel: 650-322-1360 Fax: 650-322-1370 Website: www.fortebio.com
e-mail address of person responsible for this SDS	: Linda.Lewis@moldev.com

Section 1. Identification

Emergency telephone number (with hours of operation) : CHEMTREC, U.S. : 1-800-424-9300
 International: +1-703-527-3887
 24 hours/day, 7 days/week

Section 2. Hazards identification

OSHA/HCS status : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture : Not classified.

GHS label elements

Signal word : No signal word.

Hazard statements : No known significant effects or critical hazards.

Precautionary statements

Prevention : Not applicable.

Response : Not applicable.

Storage : Not applicable.

Disposal : Not applicable.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Description / Mfg. Reference
 (AHC) Anti-hIgG Fc Capture / 18-0015
 (AHQ) Anti-Human IgG Fc / 18-0001
 (AMC) Anti-Mouse IgG Fc Capture / 18-0025
 (AMQ) Anti-Murine IgG Fv / 18-0007
 (APS) Aminopropylsilane / 18-0010
 (AR2G) Amine Reactive 2nd Generation / 18-0026
 (FAB) Anti-Human Fab-CH1 / 18-0030
 (FAB2G) Anti-Human Fab-CH1 2nd Generation / 18-0039 (FLG) Anti-FLAG / 18-0032
 (GST) Anti-GST / 18-0027
 (HCP) Anti-CHO HCP / 18-0021
 (HIS) Anti-Penta-HIS / 18-0020
 (HIS1K) Anti-Penta-HIS / 18-0038
 (HIS2) Anti-HIS / 18-0034
 (NTA) Ni-NTA / 18-0029
 (ProA) Protein A / 18-0004, 18-0028
 (ProG) Protein G / 18-0022
 (ProL) Protein L / 18-0023
 (RPA) Residual Protein A / 18-0016
 (SA) Streptavidin / 18-0009, 18-0009IQ
 (SAX) High Precision Streptavidin / 18-0037
 (SSA) Super Streptavidin / 18-0011
 (IQOQ) Calibration Biosensors / 18-0040
 (PQQ) Performance Qualification Biosensors, Quantitation / 18-0042
 (PQK) Performance Qualification Biosensors, Kinetics / 18-0043
 (GlyS) Sialic Acid / 18-0046

Section 3. Composition/information on ingredients

Ingredient name	%	CAS number
Biosensor:	<0.01	Mixture
Glass Optical Fibre	<0.01	-
Packaging:	>99.99	Mixture
Static Dissipative Foil	5-10	-
Acrylonitrile butadiene styrene	65-75	9003-56-9
Polystyrene	20-25	-

The exact percentage (concentration) in the composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Rinse thoroughly with plenty of water for at least 15 minutes and obtain medical attention.
- Inhalation** : Unlikely route of exposure. Move casualty to fresh air. Get medical attention if symptoms persist.
- Skin contact** : Unlikely route of exposure. Get medical attention if symptoms occur.
- Ingestion** : Unlikely route of exposure. Possible danger from broken glass or plastic shards if ingested. Do not induce vomiting unless directed to do so by medical personnel. Give water to drink. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. **However, this is an unlikely exposure scenario.**
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.
- Specific hazards arising from the chemical** : In the event of a large fire, noxious fumes.
- Hazardous thermal decomposition products** : Carbon monoxide, carbon dioxide and smoke. Risk from decomposition fumes is slight due to the small size of product.
- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions** : Do not let the product enter drains, water courses or sewers. Serious environmental hazard is unlikely due to the small size of the product and the amount of material present.

Methods and materials for containment and cleaning up

- Spill** : Consider nature of product being tested. Specific methods of containment and clear up are not necessary due to small size of product. Wear stout gloves if broken glass or plastic shards are present. Clear up spillage. Remove to a suitable marked container for disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Follow standard laboratory practice.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures.
- Conditions for safe storage, including any incompatibilities** : Store in a cool, dry well ventilated place. Keep container tightly closed. Product should be stored, unopened, in the foil packaging as supplied, until ready for use.
Store at room temperature (18 - 25°C).

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

None.

- Appropriate engineering controls** : Not likely to be a problem due to the small quantity of material present. Handle in accordance with good hygiene practices. Wash hands before eating, drinking or smoking after using the product, and at the end of a work day.
- Environmental exposure controls** : Keep from entering drains. Not likely to pose a problem due to the small quantity of material present.

Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Not likely to be needed due to the small quantity of material present. Standard laboratory safety spectacles.
- Skin protection**
- Hand protection** : Handle using standard laboratory gloves, appropriate for the overall task being conducted. Consult manufacturer for suitability of materials.
- Body protection** : Not likely to be needed due to the small quantity of material present. Standard laboratory coat.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Not likely to be needed due to the small quantity of material present.

Section 9. Physical and chemical properties

Appearance

- Physical state** : Solid. [Biosensor device]
- Color** : Clear.
- Odor** : Not available.
- Odor threshold** : Not available.
- pH** : Not applicable.
- Melting point** : Not available.
- Boiling point** : Not available.
- Flash point** : Not applicable.
- Evaporation rate** : Not applicable.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Not applicable.
- Vapor pressure** : Not available.
- Vapor density** : >1 [Air = 1]
- Relative density** : Not available.
- Solubility** : Insoluble in water.
- Partition coefficient: n-octanol/water** : Not applicable.

Section 9. Physical and chemical properties

- Auto-ignition temperature** : Not available.
Decomposition temperature : Not available.
Viscosity : Not applicable.
Flow time (ISO 2431) : Not available.

Section 10. Stability and reactivity

- Reactivity** : The product is stable under recommended conditions of storage and use.
- Chemical stability** : The product is stable under recommended conditions of storage and use.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Conditions to avoid** : Avoid physical or mechanical shock, or other conditions that might damage the biosensor.
- Incompatible materials** : Strong oxidizing agents.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

There is no data available.

Irritation/Corrosion

There is no data available.

Sensitization

There is no data available.

Mutagenicity

There is no data available.

Carcinogenicity

There is no data available.

Reproductive toxicity

There is no data available.

Teratogenicity

There is no data available.

Specific target organ toxicity (single exposure)

There is no data available.

Specific target organ toxicity (repeated exposure)

There is no data available.

Aspiration hazard

There is no data available.

Section 11. Toxicological information

Information on the likely routes of exposure : Dermal contact. Eye contact.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Long term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Potential chronic health effects

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

There is no data available.

Section 12. Ecological information

Not likely to pose a serious ecological hazard due to the size of the product and the quantity of material present.

Toxicity

There is no data available.

Persistence and degradability

There is no data available.

Section 12. Ecological information

Bioaccumulative potential

There is no data available.

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : Dispose of biosensor as a contaminated sharp. The use of a specific contaminated sharps package, compliant with local regulations is recommended.

Product to be packaged and disposed of by a licenced waste disposal contractor, in accordance with appropriate local and national regulations. No specific method or recommendation given.

Disposal should additionally take into account any contaminants on the items as a result of use.

Section 14. Transport information

	DOT Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.

AERG : Not applicable.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

U.S. Federal regulations : **United States inventory (TSCA 8b)**: All components are listed or exempted.

Clean Air Act Section 112 : Not listed

(b) Hazardous Air Pollutants (HAPs)

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Not applicable.

SARA 313

There is no data available.

State regulations

Massachusetts : None of the components are listed.

New York : None of the components are listed.

New Jersey : None of the components are listed.

Pennsylvania : None of the components are listed.

California Prop. 65

This product does not require a Safe Harbor warning under California Prop. 65.

Section 16. Other information

Procedure used to derive the classification

Classification	Justification
Not classified.	

History

Date of issue mm/dd/yyyy : 2/15/2019

Date of previous issue : 12/15/2018

Version : 4

Prepared by : KMK Regulatory Services Inc.

Key to abbreviations

ATE = Acute Toxicity Estimate
 BCF = Bioconcentration Factor
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 IATA = International Air Transport Association
 IBC = Intermediate Bulk Container
 IMDG = International Maritime Dangerous Goods
 LogPow = logarithm of the octanol/water partition coefficient
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)

Section 16. Other information

UN = United Nations

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.