

MATERIAL SAFETY DATA SHEET

SECTION 1 – CHEMICAL PRODUCT(S) AND COMPANY IDENTIFICATION

Manufacturer Name: **Advanced BioMatrix, Inc.**
Address: **P.O. Box 502403**
San Diego, California 92150
For Information Call: **520-623-2099**
Date Prepared: **January 9, 2009**

Common Name / Trade Name	Source	CAS Number
VitroCol	Human Collagen- Fibroblasts	[9007-34-5]

Quick Identifier (In-plant Common Name)	Human Collagen
Chemical Name	Enzyme / Protein, Complex Polypeptides
CAS Number	As Listed

SECTION 2 – COMPOSITION AND INFORMATION ON INGREDIENTS

Ingredient Name(s)	Refer to <i>Section 1</i>
CAS Number(s)	Refer to <i>Section 1</i>
Principal Hazardous Component(s)	N/A
Product chemical and common name(s)	N/A
Biological Activity	Varies (%)
EC Numbers(s)	Refer to <i>Section 1</i>
Exposure Limit(s)	1. None Established 2. May cause allergic reactions in certain sensitive individuals.

SECTION 3 – HAZARDS IDENTIFICATION

Threshold Limit Value	None known or reported.
Signs and Symptoms of Exposure	<u>Acute Overexposure:</u> May cause skin eye or respiratory irritation upon contact. <u>Chronic Overexposure:</u> Allergic reaction may develop in certain sensitive individuals.
Medical Conditions Generally Aggravated by Exposure	Allergy-prone and asthmatic individuals should be particularly cautious with proteins and other materials of biological origin.
Chemical Listed as Carcinogen or Potential Carcinogen	No
National Toxicology Program	No
I.A.R.C Monographs	No
OSHA Permissible Exposure Limit	None known
ACGIH Threshold Limit Value	No
Other Exposure Limit Use	No

SECTION 4 – FIRST AID MEASURES

Emergency & First Aid Procedures	May cause allergic reactions in certain sensitive individuals.
Inhalation	Remove person from source then obtain necessary medical attention.
Eyes	Check for contact lenses and remove if present. Flush thoroughly with water while opening eyelids. If symptoms such as redness and irritation persist, obtain medical attention.
Skin	Remove contaminated clothing. Wash material from skin with soap and water and rinse thoroughly with clean water. Obtain medical attention as needed or if irritation develops. Clean contaminated clothing before reuse.
Ingestion	May be harmful if swallowed. Obtain Medical attention as needed.

SECTION 5 – FIRE AND EXPLOSION HAZARDS

Special Fire Fighting Procedures	Fire fighter should wear full protective gear, including self-contained breathing apparatus.
Auto-Ignition Temperature	N/A
Flash Point	N/A
Flammable Limits in Air (% by Volume)	N/A
Extinguisher Media	Water spray, carbon dioxide, dry chemical foam.
Unusual Fire and Explosion Hazards	As with any organic material, this product may produce toxic carbon monoxide and dioxide fumes if heated to decomposition and airborne dust may present an explosion hazard.
Stability	Stable

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Precautions to be Taken in Handling and Storage	Wear appropriate protective clothing and gloves.
Other Precautions	None
Steps to be Taken in Case Material is Released or Spilled	Wear protective clothing and gloves. Vacuum or collect spill into appropriate waste container for disposal. Use normal clean-up procedures for liquid spillage and wash thoroughly with water. Wash contaminated clothing before reuse.
Waste Disposal Methods	Dispose of waste in accordance with all applicable Federal, State and local regulations. <i>Refer to Section 13.</i>

SECTION 7 – HANDLING AND STORAGE

Storage	Refer to specific product label for storage conditions.
Handling	To ensure sterility of product, handle in an aseptic environment.

SECTION 8 – EXPOSURE CONTROLS & PERSONAL PROTECTION

Respiratory Protection (Specify Type)	None required
Mechanical (General)	Vent fan
Ventilation	Advisable
Local Exhaust	As required
Special	None
Protective Gloves	Wear gloves to prevent skin contact
Eye Protection	Either safety glasses or goggles should be worn
Other Protective Clothing or Equipment	Sensitive individuals should wear dust masks/respirators, protective gloves, eye protection, lab coat, apron or other protective clothing to minimize contact.

SECTION 9 – PHYSICAL & CHEMICAL PROPERTIES

Appearance and Odor	Clear to opaque, white to tan, typical enzyme odor.
Solubility in Water	Immiscible in water
Boiling Point	Decomposes
Specific Gravity (H₂O = 1)	Varies
Vapor Pressure (mmHg)	N/A
Percent Volatile by Volume	N/A
Vapor Density (Air = 1)	N/A

SECTION 10 – STABILITY AND REACTIVITY

Evaporation Rate	N/A
Hazardous Decomposition Products	As with any organic material, this product may produce toxic carbon monoxide and dioxide fumes if heated to decomposition and airborne dust may present an explosion hazard.
Hazardous Polymerization	Will not occur.
Incompatibility (Materials to Avoid)	None known

SECTION 11 – TOXICOLOGICAL INFORMATION

1. Refer to *Section 3* for health effects information.
2. The toxicological properties of this material have not been fully investigated.
3. Always follow Good Laboratory and Industrial Hygiene Practices and wear proper personal protective equipment when handling chemicals.
4. May cause irritation and/or allergic reaction.

Routes of Exposure	Ingestion, skin and eye contact.
LD50	No oral LD50 is available
Carcinogenicity	Unknown
Mutagenic / Teratogenic Effects	Unknown

SECTION 12 – ECOLOGICAL INFORMATION

No data available. No environmental hazard is known.

SECTION 13 – DISPOSAL CONSIDERATIONS

1. Dispose of waste in accordance with all applicable Federal, State and local regulations.
2. Chemical residues are generally classified as special waste and, as such, the transportation, storage, treatment and disposal of this waste material must be conducted in compliance with all applicable Federal, State and local regulations.
3. Rinse empty containers thoroughly before disposal and/or recycling.

SECTION 14 – TRANSPORT INFORMATION

Department of Transportation Requirements:

Proper Shipping Name	Not Regulated
Hazard Class	N/A
Packaging Group	N/A
Reportable Quantity	N/A
Labels Required	N/A
International Transportation Regulations	Not Regulated
UN/NA Code	N/A

SECTION 15 – REGULATORY INFORMATION

US Federal Regulations	<ol style="list-style-type: none">1. Material(s) listed are exempt from the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory when supplied for research and development purposes or use3d under the Supervision of a technically qualified individual as defined by 40 CFR720.3.2. The health risks have not been fully determined.
State Regulations	Based upon available information, material(s) listed are not known to be regulated by any state or listed on any "Right To Know" Hazardous Substance List.
International Regulations	<ol style="list-style-type: none">1. EC: Harmful; R42/43, May cause sensitization by inhalation and skin contact.2. S36, Wear suitable protective clothing.

SECTION 16 – OTHER USEFUL INFORMATION**Disclaimer**

The information contained in this MSDS relates only to the material(s) designated and does not relate to uses(s) in combination with any other materials, process(es) and/or chemical reactions(s).

Advanced BioMatrix, Inc. provides this information in good faith, from sources believed to be accurate, however, assumes no liability for its accuracy or completeness.

We do not assume liability for damages resulting from the handling, use and/or disposal of these products, from their use in violation of patent or other rights or reliance upon this information.

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