



# GREAT LAKES GELATIN COMPANY

COLLAGEN • PROTEIN • LEADER • SINCE 1922

## SAFETY DATA SHEET: Gelatin

Based on Regulation EC No 1907/2006 (REACH) Article 31 and Annex II

REF:	GLGSDSGELATIN	EDITION:	3
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## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY

### 1.1 Product Identifier:

**GELATIN (GREAT LAKES GELATIN, CO.)**

Types: All Porcine types  
All Bovine types

#### 1.1.1 Substances

**Substance Name:** Gelatin  
**CAS No.:** 9000-70-8  
**EINECS No.:** 232-554-6  
**REACH Registration No.:** NA

#### 1.1.2 Other Means of Identification

Collagen Hydrolysate

### 1.2 Intended Use of the Product

\*Gelatin is used as raw material in food, pharmaceutical, photographic, feed, pet food and technical applications. Bovine gelatin may not be used in feed for ruminant and non-ruminant animals as specified in EC Regulation 999/2001 as amended.

Gelatin is a natural occurring biopolymer and for this reason, does not need a registration according regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) as amended.

### 1.3 Company/Undertaking Identification

Great Lakes Gelatin  
253 Commerce Drive  
Grayslake, IL 60030  
Tel number: 847-231-8141  
E-Mail: [contactsales@greatlakesgelatin.com](mailto:contactsales@greatlakesgelatin.com)

### 1.4 Emergency Telephone Number



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## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the Substance or Mixture

Gelatin is not considered as a Hazardous Component as described in Regulation (EC) No 1272/2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006

It is also not listed in the FDA Draft list of potentially hazardous contaminants in animal feed and feed ingredients. Establishments primarily engaged in manufacturing edible, technical, photographic and pharmaceutical gelatin are classified in Occupational Safety and Health Administration (OSHA) industry group 2899.

### 2.2 Label Elements

None required.

### 2.3 Other Hazards

<b>Inhalation</b>	: Dust may cause irritation. At very high concentration for prolonged periods could cause blockages of the respiratory tract due to swelling of the dust as it absorbs body moisture.
<b>Ingestion</b>	: Because collagen hydrolysate can be used as a food ingredient, no detrimental effect would be expected as a result of moderate ingestion.
<b>Skin Contact</b>	: No detrimental effect.
<b>Eye Contact</b>	: Dust may cause irritation.

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

<b>CAS name</b>	: Gelatin
<b>Synonyms</b>	: Collagen hydrolysate
<b>Composition</b>	: > 85 % protein, < 15 % water, inorganic ash < 2% (Ca, Na, SO <sub>4</sub> ,...)
<b>Chemical Family</b>	: Protein derived from porcine or bovine bones, from cattle hides or from pigskins.
<b>Molecular Formula</b>	: (-CO-CHR-H) <sub>n</sub>
<b>Molecular weight</b>	: Not applicable
<b>Hazard symbol</b>	: Not applicable
<b>Risks (R phrases)</b>	: Not applicable
<b>CAS n°</b>	: 9000-70-8
<b>EINICS/ELINCS n°</b>	: 232-554-6

\*For the production of gelatin, raw materials are sourced from healthy animals slaughtered in registered slaughterhouses and declared *fit for human consumption* after ante- and post- mortem inspection by the official veterinary officer. Bovine specified risk material, as specified in Regulation EC 999/2001 and in 21 CFR Sec.



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189.5 Prohibited cattle materials, are not used for the production of gelatin.





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## 4. FIRST AID MEASURES

### **4.1 First Aid Measures General**

Product is edible and does not pose a risk to health.

### **4.2 First Aid Measures After Inhalation**

If inhalation of dusts occurs causing coughing or discomfort, go to a fresh air environment until dust settles and irritation clears. A dust mask respirator may be used voluntarily to further reduce this risk.

### **4.3 First Aid Measures After Skin Contact**

If contact occurs, wash the exposed area with water and dry skin completely before returning to work. Gloves and or long sleeve clothing can be used to minimize this risk.

### **4.4 First Aid Measures After Eye Contact**

If eye irritation occurs, wash your eyes out with clean water for 15 minutes or until discomfort discontinues. If irritation persists, contact emergency personnel as required. Use of wrap around safety glasses or goggles can minimize this risk.

### **4.5 First Aid Measures After Ingestion**

Drink 1-2 glasses of water. Get medical attention if symptoms occur.

### **4.6 Self-Protection of the First Aider**

No special protective factors are required for first aid response.

## 5. FIRE-FIGHTING MEASURES

### **5.1 Suitable Extinguishing Media**

Water, polyvalent foam, ABC dry chemical powder.

### **5.2 Unsuitable Extinguishing Media**

No data available.

### **5.3 Special Exposure Hazards Arising from the Substance:**

Flammable dust in the finely divided and in air suspended state.

Under fire conditions, emit toxic fumes of carbon monoxide, carbon dioxide, nitrogen oxides and lower amounts of sulphur oxides.

### **5.4 Special Firefighting Procedures**

Treat as "Class A" fire. Gelatin should be removed from the source of heat/ignition to reduce decomposition, if possible.



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## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal Precautions

Handle as non-hazardous material. Wear a dust mask type P1, chemical safety goggles and rubbery boots (type Wellington boots).

### 6.2 Environmental Precautions

Unlikely to present environmental hazard.

Do not flush to drain, surface waters or ground waters. In function of circumstances, inform competent authorities.

### 6.3 Methods for Cleaning Up

Sweep up or vacuum, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and thoroughly wash spill site with warm water after material pick up is complete. An extreme slip hazard can develop if material spilled on the floor becomes wet.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for Safe Handling

- Good Manufacturing Practice hygiene measures should be applied at all time.
- Any partly used container should be properly sealed before return to storage.
- Do not smoke.
- Keep away from burning products or heat sources.
- Avoid dust formation.
- Avoid contact with eyes and skin.
- In case of auto combustion, take appropriate measures in order to avoid contact with air of the burning material.

### 7.2 Conditions for Safe Storage

- Keep in tightly closed containers, away from extreme of temperature.
- Moisture should be excluded from opened bags. In closed facilities (like silo's) avoid accumulation of electrostatic charges by earthing and prevent the proximity of any flame or spark created electrically or mechanically.
- Keep a good ventilation of warehouse.
- Avoid reactive vapors like formaldehyde, which can compromise the products functionality. In order to avoid auto inflammation by chemical reactivity: Do not smoke
- Keep away from ignition sources and flame.



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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control Parameters

**Exposure Limit Values:** Not Applicable. Gelatin is Generally Recognized as Safe (GRAS)

### 8.2 Exposure Controls

#### 8.2.1 Occupational Exposure Controls:

<b>Avoid Raising Dust</b>	: Ventilate area.
<b>Respiratory Protection</b>	: Voluntary use of a type P1 dust mask can be used to reduce the risk of inhalation.
<b>Hand Protection</b>	: None.
<b>Eye Protection</b>	: Voluntary use of safety goggles can be used to prevent ocular exposure.
<b>Skin Protection</b>	: None.

#### 8.2.2. Environmental Exposure Controls

Compound does not create an environmental hazard.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 General Information

<b>Appearance</b>	: Pale yellow granular powder.
<b>Odor</b>	: Slight characteristic "bouillon-like".

### 9.2. Important Health, Security and Environmental Information

<b>pH</b>	: 4.5 - 6.5 in 1% aqueous solution at 60°C.:ca.
<b>Melting Point</b>	: 200°C (with decomposition).
<b>Boiling Point</b>	: Not applicable.
<b>Flash Point</b>	: Not applicable.
<b>Evaporation Rate</b>	: Not applicable.
<b>Flammability</b>	: Not applicable.
<b>Minimal Energy of Inflammation:</b>	: About 50 mJ.
<b>Dust Explosion Risk</b>	: Low ATEX risk (St 1).
<b>Combustibility</b>	: Used as a combustion retarder.
<b>Vapor Pressure</b>	: Not applicable.
<b>Relative Density</b>	: 450 - 800 g/l (depending on particle size).
<b>Solubility</b>	: Highly soluble in water above 40°C; insoluble in fat (solvent or oil).
<b>Partition Coefficient in Octanol / Water:</b>	: Not applicable.
<b>Auto Ignition Temperature</b>	: Not applicable.
<b>Decomposition Temperature</b>	: ca 200°C (cfr melting point).
<b>Viscosity</b>	: Vary in function of gelatin origin and grade.
<b>Oxidizing Properties</b>	: None.



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### 9.3 Other Information

<b>Moisture</b>	:	< 15 %
<b>Dioxine</b>	:	< 2,5 ng WHO TEQ/kg (88% D.S.)
<b>Dioxine + DL-PCB's</b>	:	< 7 ng WHO TEQ/kg (88% D.S.)





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## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Not known to be chemically reactive with other substances causing a hazardous reaction.

### 10.2 Chemical Stability

Chemical is stable. Fine powder material may form explosive dust-air mixtures.

### 10.3 Possibility of Hazardous Reactions

Unknown.

### 10.4 Conditions to Avoid

Unknown.

### 10.5 Incompatible Materials

Not known to be incompatible with other substances creating a hazardous reaction.

### 10.6 Hazardous Decomposition Products

Carbon dioxide, carbon monoxide, oxides of nitrogen. Powdered material may form explosive dust-air mixtures.

## 11. TOXICOLOGICAL INFORMATION

- No acute toxicity (ingestion, inhalation, skin and eye contact or other routes). No corrosivity.
- No sensitization.
- No chronic hazards have been identified. Gelatin does not cause occupational disease.
- No repeated dose toxicity.
- No CMR effects i.e. No carcinogenicity, no teratogenicity and no embryo toxicity, no reproductive toxicity and no mutagenicity.
- Gelatin is not listed in the National Toxicology Program (NTP) Report on Carcinogens and has not been found as a potential carcinogen in the International Agency for Research on Cancer (IARC) Monograph latest edition, the OSHA or the California Prop 65 list.
- Potential for accumulation: Not likely to accumulate. Easily metabolized as protein.





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## 12. ECOLOGICAL INFORMATION

### 12.1 Eco Toxicity

Not hazardous in water (WGK or WHC = 0). Susceptible to microbiological decomposition. In large quantities in watercourse, would raise the B.O.D. level. Not toxic to fish, aquatic invertebrates, aquatic plants (e.g. algae) or microorganisms (e.g. bacteria).

### 12.2 Persistence and Degradability

No bioaccumulation. Decomposed in soil, biodegradable. Not photodegradable

## 13. DISPOSAL CONSIDERATIONS

- Small Quantities** : Wash to waste with warm water.  
**Large Quantities** : Dispose as municipal or commercial waste, according to local regulations.  
**Packaging** : Recycle, according to local regulations.

## 14. TRANSPORT INFORMATION

<b>European REACH regulation</b>	: Gelatin is exempted from REACH regulation.
<b>Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180)</b>	: Not applicable.
<b>United States Department of Transportation (USDOT or DOT)</b>	: Not applicable.
<b>Canadian Transportation of Dangerous Goods (TDG)</b>	: Not applicable.
<b>International air transport Association (IATA)</b>	: Not applicable.
<b>Marine pollutant</b>	: No.

Transport in unopened original containers away from extremes of temperature; keep in dry condition to avoid moisture pick up. Food, pharmaceutical product should be transported according to GMP.

In Europe, in accordance with Commission Regulation (EC) No 1069/2009 and 142/2011 and amendments, technical gelatins are dispatched from one Member State to another Member State in containers or vehicles which are prominently and, at least for the period of transport, indelibly color-coded using the color green with a high content of blue.

During transport, a label attached to the container or vehicle must clearly indicate the category of the animal by-products from which the processed products were derived and bear the words: "not for human consumption".



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## 15. REGULATORY INFORMATION

### **15.1 Safety, Health and Environmental Regulations / Legislation Specific for the Substance or Mixture**

The regulation (EC) 1907/2006 of December 18, 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) does not apply to Gelatine / Collagen and their hydrolysates as they are natural polymers and/or chemically modified natural polymers. The amino acids are regarded as non-isolated intermediates and therefore do not have to be registered. The exemption of the registration of Gelatine / Collagen, their hydrolysates and their monomers is confirmed by ECHA and the German REACH help desk.

### **15.2 Chemical Safety Assessment:**

Compound is an organic, stable, edible food grade product made from animal by-products. The compound is not classified as a hazardous chemical / substance and does not adversely affect the environment or human health as defined in the GHS.

\*In the USA, collagen hydrolysate for human consumption is regulated by:

- FDA 21 CFR 189 and 700 concerning the record keeping requirements for human Food and Cosmetics manufactured from, processed with or otherwise containing material from Cattle,
- FDA 9 CFR parts 309, 310, 311, 318 and 319 concerning the prohibition of the use of specified risk material for human food and by 9 CFR 94.18.
- Restrictions on importation of meat and edible products from ruminants due to bovine spongiform encephalopathy and FDA Guidance note for industry on bovine gelatin dated September 1997.

\*Food grade gelatin meets the specifications of most recent edition of Food Chemical Codex; Pharmaceutical grade collagen hydrolysate meets the specifications of the European and US Pharmacopoeia except that it has no gel strength.

## 16. OTHER INFORMATION

**Hazard Symbol:** Not Applicable

**Safety Phrases:** S16 Keep away from sources of ignition

The above information is believed to be correct at the date of issue, but does not pretend to be exhaustive. It shall only be used as a guideline for correct manipulation, storage, use, transport and disposal of the product, but it is not intended as a guarantee or indication of quality. It is relative to the above-mentioned product and loses its validity when used together with other products, except if otherwise indicated in the text.