



## Material Safety Data Sheet

### Activated Carboxylated Osteocalcin ELISA

#### 1. Company and Product Identification

<b>Trade Name (As Labeled):</b>	Activated Carboxylated Osteocalcin ELISA
<b>Catalog Number:</b>	OST31-K01
<b>Product Description:</b>	This ELISA (enzyme-linked immunosorbent assay) kit is intended for the quantitative determination of both human osteocalcin (1-49) and osteocalcin (1-43) (also referred as N-terminal & mid-regional osteocalcin) levels in test samples.
<b>Product Use Information:</b>	This ELISA is designed, developed and produced for the quantitative measurement of human osteocalcin (1-49) and (1-43) in serum or plasma sample. The assay utilizes the two-site "sandwich" technique with two selected antibodies that bind to different epitopes of human osteocalcin. For research use only.
<b>Distributor's Name:</b>	Eagle Biosciences, Inc.
<b>Address:</b>	20A NW Blvd, Suite 112, Nashua, NH 03063 USA
<b>Telephone:</b>	617-419-2019
<b>Emergency Telephone</b>	911 (Inside US)
<b>Number: Date of Preparation:</b>	November 29, 2011
<b>Date of Last Revision:</b>	October 2, 2018


#### 2. Hazard Identification

##### Emergency Overview:

This Osteocalcin Kit contains components making up this ELISA kit. The kit contains a Substrate, Wash Buffer, Stop Solution, Enzyme Conjugate Reagent, antibody, standards and controls. The contents are a clear to yellowish liquid with a mild odor. This product is used in laboratories for human serum/plasma sample testing.

<b>Health Hazards:</b>	Possible skin and eye irritant.
<b>Flammability Hazards:</b>	Non-Flammable solution.
<b>Reactivity Hazards:</b>	None known.
<b>Environmental Hazards:</b>	Not expected to have significant environmental effects.
<b>Emergency Considerations:</b>	Emergency responders must wear the proper personal protective equipments (and have appropriate fire-suppression equipment) suitable for the situation to which they are responding.

### Hazard Communication

<b>Hazard Determining Components of Labeling:</b>	ELISA Wash Concentrate (ProClin™)
<b>GHS Pictogram:</b>	
<b>Signal Words:</b>	Warning
<b>Hazard Statement:</b>	<b>H317:</b> May cause an allergic skin reaction.
<b>Precautionary Statement Prevention:</b>	<b>P261:</b> Avoid breathing dust/fume/gas/mist/vapours/spray. <b>P272:</b> Contaminated work clothing should not be allowed out of the workplace. <b>P280:</b> Wear protective gloves/protective clothing/eye protection/face protection.
<b>Precautionary Statement Response:</b>	<b>P302 + P352:</b> IF ON SKIN: Wash with plenty of soap and water. <b>P321:</b> Specific treatment (See label). <b>P333 + P313:</b> If skin irritation or rash occurs: Get medical advice/attention. <b>P363:</b> Wash contaminated clothing before reuse.
<b>Precautionary Statement Storage:</b>	N/A.
<b>Precautionary Statement Disposal:</b>	<b>P501:</b> Dispose of contents/container.

### Health Hazards or Risk from Exposure:

Prolonged contact with the components in this kit may irritate the skin. Contact with eyes may cause irritation or redness. This product is designed to be used in a laboratory environment.

<b>Acute:</b>	Individuals using this product should be wearing the proper personal protective equipment to prevent skin and eye contact.
<b>Chronic:</b>	None known.

## 3. Composition and Information on Ingredients

### 3.1 Substances

This substance is a mixture.

### 3.2 Mixture

Hazard Classification:	CAS #	EINECS #	Amount	EC 1272/2008 Annex VI, Part 3
ELISA Stop Solution				
Sulfuric Acid	7664-93-9	231-639-5	<5%	Skin Corr. 1A; H314

**Material Safety Data Sheet**  
**Activated Carboxylated Osteocalcin ELISA**

<b>Hazard Classification:</b> ELISA Wash Concentrate	<b>CAS #</b>	<b>EINECS #</b>	<b>Amount</b>	<b>EC 1272/2008 Annex VI, Part 3</b>
ProClin™ 300*	55965-84-9	613-167-00-5	< 0.06%	Acute Tox. 3, H331 Acute Tox. 3, H311 Acute Tox. 3, H301 Skin Corr.1B, H314 Skin Sens. 1;H317 Aquatic Acute. 1; H400 Aquatic Chronic. A; H410
<b>Hazard Classification:</b> Human Osteocalcin Standards and Controls	<b>CAS #</b>	<b>EINECS #</b>	<b>Amount</b>	<b>EC 1272/2008 Annex VI, Part 3</b>
ProClin™ 300*	55965-84-9	613-167-00-5	< 0.0015%	Acute Tox. 3, H331 Acute Tox. 3, H311 Acute Tox. 3, H301 Skin Corr.1B, H314 Skin Sens. 1;H317 Aquatic Acute. 1; H400 Aquatic Chronic. A; H410
<b>Hazard Classification:</b> HRP-Conjugated Osteocalcin Antibody	<b>CAS #</b>	<b>EINECS #</b>	<b>Amount</b>	<b>EC 1272/2008 Annex VI, Part 3</b>
ProClin™ 300*	55965-84-9	613-167-00-5	< 0.0015%	Acute Tox. 3, H331 Acute Tox. 3, H311 Acute Tox. 3, H301 Skin Corr.1B, H314 Skin Sens. 1;H317 Aquatic Acute. 1; H400 Aquatic Chronic. A; H410
<b>Hazard Classification:</b> Biotinylated Osteocalcin Antibody	<b>CAS #</b>	<b>EINECS #</b>	<b>Amount</b>	<b>EC 1272/2008 Annex VI, Part 3</b>
ProClin™ 300*	55965-84-9	613-167-00-5	< 0.0015%	Acute Tox. 3, H331 Acute Tox. 3, H311 Acute Tox. 3, H301 Skin Corr.1B, H314 Skin Sens. 1;H317 Aquatic Acute. 1; H400 Aquatic Chronic. A; H410
<b>Hazard Classification:</b> Streptavidin Coated Microplate	<b>CAS #</b>	<b>EINECS #</b>	<b>Amount</b>	<b>EC 1272/2008 Annex VI, Part 3</b>
ProClin™ 300*	55965-84-9	613-167-00-5	< 0.0015%	Acute Tox. 3, H331 Acute Tox. 3, H311 Acute Tox. 3, H301 Skin Corr.1B, H314

Skin Sens. 1;H317  
Aquatic Acute. 1; H400  
Aquatic Chronic. A; H410

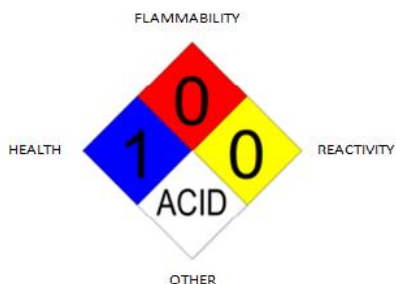
\* ProClin™ 300 is used a preservative in the listed reagents. The hazardous ingredient is the reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [ECno. 220-239-6] (3:1).

#### 4. First-Aid Measures

Contaminated individuals of chemical exposure must be taken for medical attention if any adverse effect occurs. Rescuers should be taken for medical attention, if necessary. Take a copy of the label and MSDS to a health professional with the contaminated individual.

- Eye Contact:** If chemical contacts the eye, open victim's eyes while under gentle running water. Use sufficient force to open eyelids. Have victim "roll" eyes. Minimum flushing is for 15 minutes. Remove contact lenses, if worn. Seek medical attention if irritation persists.
- Skin Contact:** Wash contacted area with soap and water. Remove exposed or contaminated clothing, taking care not to contaminate eyes. Seek medical attention if irritation develops or persists.
- Inhalation:** Not a normal route of entry; however, if chemical is inhaled, or breathing becomes difficult, remove victim to fresh air. If necessary, use artificial respiration to support vital functions. Seek medical attention.
- Ingestion:** If chemical is swallowed, call physician or poison control center for most current information. If professional advice is not available, do not induce vomiting. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or who cannot swallow. Victims of chemical exposure must be taken for medical attention. Rescuers should be taken for medical attention, if necessary. Take a copy of the label and MSDS with the victim to the health professional.
- Medical Conditions Aggravated by Exposure:** None known.
- Recommendations to Physicals:** Treat symptoms and eliminate overexposure.

#### 5. Fire-Fighting Measures



NFPA Rating Explanation Guide					
RATING NUMBER	HEALTH HAZARD	FLAMMABILITY HAZARD	INSTABILITY HAZARD	RATING SYMBOL	SPECIAL HAZARD
4	Can be lethal	Will vaporize and readily burn at normal temperatures	May explode at normal temperatures and pressures	ALK	Alkaline
3	Can cause serious or permanent injury	Can be ignited under almost all ambient temperatures	May explode at high temperature or shock	ACID	Acidic
2	Can cause temporary incapacitation or residual injury	Must be heated or high ambient temperature to burn	Violent chemical change at high temperatures or pressures	COR	Corrosive
1	Can cause significant irritation	Must be preheated before ignition can occur	Normally stable. High temperatures make unstable	OX	Oxidizing
0	No hazard	Will not burn	Stable	☸	Reacts violently or explosively with water
				☸OX	Reacts violently or explosively with water and oxidizing

This chart for reference only - For complete specifications consult the NFPA 704 Standard

**Flash Point:** Non-flammable.

**Auto-ignition Temperature:** Not applicable.

**Flammable Limits (%):** Lower and Upper N/A

**Fire Extinguishing Materials:** Use extinguishing materials appropriate for surrounding fire.

**Unusual Fire and Explosive Hazards:** The product is a water based mixture with no known fire or explosion hazards.

**Explosion Sensitivity to Mechanical Impact:** Not sensitive.

**Explosion Sensitivity to Static Discharge:** Not sensitive.

**Special Fire-Fighting Procedures:** Incipient fire responders should wear eye protection. Structural firefighters must wear Self-Contained Breathing Apparatus and full protective equipment. Isolate materials not yet involved in the fire and protect personnel. Move containers from fire area if this can be done without risk; otherwise, cool with carefully applied water spray. If possible, prevent runoff water from entering storm drains, bodies of water, or environmentally sensitive areas.

## 6. Accidental Release Measures

**Spill and Leak Response:** Proper protective equipment should be used. Personnel should be trained for spill response operations.

**Spills:** Trained personnel following pre-planned procedures should handle non-incident releases. Absorb spilled materials using polypads or other suitable absorbent material. Place all spill residue in an appropriate container and seal. Decontaminate the area thoroughly. Do not mix with wastes from other materials. Dispose of in accordance with applicable Federal, State, and local procedures.

## 7. Handling and Storage

**Material Safety Data Sheet**  
**Activated Carboxylated Osteocalcin ELISA**

---

**Work and Hygiene Practices:** As with all chemicals, avoid getting this product on you or in you. Wash thoroughly after handling this product. Do not eat, drink, smoke, or apply cosmetics while handling this product. Avoid breathing mists or sprays generated by this product. Use in a well-ventilated location. Remove contaminated clothing immediately.

**Storage and Handling Practices:** Store product in properly labeled, closed containers at temperatures between 2-8°C. Protect from physical damage. Keep containers closed when not in use.

## 8. Exposure Controls – Personal Protection

**Ventilation and Engineering Controls:** Use with adequate ventilation to ensure exposure levels are maintained below the established limits. Currently, International exposure limits are not established for all components of this product.

Please check with competent authority in each country for the most recent limits in place.

*The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with OSHA regulations found in 29 CFR Subpart I (beginning at 1910.132) or equivalent standards of Canada, or standards of EU member states (including EN 149 for respiratory PPE, and EN 166 for face/eye protection), and those of Japan. Please reference applicable standards for relevant details.*

**Respiratory Protection:** If exposure limits are exceeded, use only respiratory protection authorized in the US Federal OSHA Respiratory Protection Standard (29 CFR 1910.134), equivalent US State standards, Canadian CSA Standard Z94.4-93, the European Standard EN149, or EU member states.

**Eye Protection:** Splash goggles or safety glasses with side shields recommended. If necessary, refer to US OSHA 29 CFR 1910.133, Canadian Standards, and the European Standard EN166, Australian Standards, or relevant Japanese Standards.

**Hand Protection:** Compatible protective gloves recommended. Wash hands after removing gloves. If necessary refer to US OSHA 29 CFR 1910.133, Canadian Standards, and the European Standard EN166, Australian Standards, or relevant Japanese Standards.

**Body Protection:** Use body protection appropriate for task. Coveralls, rubber aprons, or chemical protective clothing made from natural rubber are generally acceptable, depending upon the task. If necessary, refer to appropriate Standards of Canada, or appropriate Standards of the EU, Australian Standards, or relevant Japanese Standards. If a hazard of injury to the feet exists due to falling objects, rolling objects, where objects may pierce the soles of the feet or where employee's feet may be exposed to electrical hazards, use foot protection, as described in US OSHA 29 CFR 1910.139.

## 9. Physical and Chemical Properties

**Vapor Density:** N/A.

**Specific Gravity @ 20°C:** No data, (water = 1).

**Vapor Pressure:** No data @ 20°C.

**Appearance and Color:** This product is a clear to yellowish liquid.

**Evaporation Rate (n –BaAC =1):** N/A

**Solubility in Water:** Soluble.

**Material Safety Data Sheet**  
**Activated Carboxylated Osteocalcin ELISA**

---

**pH:** Not established.

### 10. Stability and Reactivity

**Stability:** Stable under ordinary conditions of use and storage.

**Decomposition Products:** When stored as labeled, no known hazardous decomposition products are formed during the shelf-life of this product.

**Materials with which Substance is Incompatible:** No information available.

**Hazardous Depolymerization:** Will not occur.

**Conditions to avoid:** Temperatures above or below the recommended storage range.

### 11. Toxicology Information

**Toxicity Data:** No data available.

**Suspected Cancer Agent:** The components of this product are not listed by agencies tracking the carcinogenic potential of chemical compounds as follows:

Carcinogenicity:

NTP Regulated:	No
IARC Regulated:	No
OSHA Regulated:	No

**Irritancy of the Product:** None known.

**Sensitization of the Product:** This product is not known to cause human skin or respiratory sensitization.

**Reproductive Toxicity Information:** Listed below is information concerning the effects of this product and its components on the human reproductive system.

Mutagenicity:	The components of this product are not reported to produce mutagenic effects in humans
Embryotoxicity:	The components of this product are not reported to produce embryotoxic effects in humans.
Teratogenicity:	The components of this product are not reported to produce teratogenic effects in humans.
Reproductive Toxicity:	The components of this product are not reported to produce reproductive effects in humans.

### 12. Ecological Information

All work practices must be aimed at eliminating environmental contamination.

**Environmental Fate:** No data available.  
**Environmental Toxicity:** No data available.

### 13. Disposal Considerations

**Preparing waste for disposal:** Waste disposal must be in accordance with appropriate US Federal, State, and local

**Material Safety Data Sheet**  
**Activated Carboxylated Osteocalcin ELISA**

---

regulations, those of Canada, Australia, EU Member States, and Japan.

#### 14. Transportation Information

<b>DOT Classification:</b>	Non-regulated material.
<b>DOT Labeling Requirements:</b>	None.
<b>IATA Labeling Requirements:</b>	None.
<b>US Department of Transportation (DOT) Shipping Regulation:</b>	This product is not classified as dangerous goods, per US DOT regulations, under 49 CFR 172.101.
<b>Transport Canada, Transportation of Dangerous Goods Regulation:</b>	This product is not classified as Dangerous Goods, per regulations of Transport Canada.
<b>International Air Transport Association (IATA):</b>	This product is not classified as Dangerous Goods, by rules of IATA.
<b>International Maritime Organization (IMO) Designation:</b>	This product is not classified as Dangerous Goods by the International Maritime Organization.
<b>European Agreement Concerning the International Carriage of Dangerous Goods by Road (ADR)</b>	This product is not classified by the United Nations Economic Commission for Europe to be dangerous goods.
<b>UN Number:</b>	None.

#### 15. Regulatory Information

**United States Regulations:**

<b>Sara Reporting Requirements:</b>	None.
<b>Marine Pollutant:</b>	This product contains no components listed as a Marine Pollutant under 49 CFR 172.101, Appendix B.
<b>TSCA:</b>	All components in this product mixture are listed on the US Toxic Substances Control Act (TSCA) inventory of chemicals or are exempt from listing.
<b>SARA 311/312:</b>	None.
<b>US CERCLA Reportable Quantity (RQ):</b>	None.
<b>US TSCA Inventory Status:</b>	All of the components of this product are listed in the TSCA Inventory or exempt.
<b>California Safe Drinking Water and Toxic Enforcement Act (Proposition 65):</b>	This product does not contain any component above the 0.1% level which is listed as a California Proposition 65 chemical.  <i>Note: the chemical identity of some or all components present is confidential business information (trade secret) and is being withheld as permitted by 29 CFR 1910.1200 (i).</i>



**Material Safety Data Sheet**  
**Activated Carboxylated Osteocalcin ELISA**

---

**Canadian Regulations:**

**Canadian DSL/INDSL  
Inventory Status:**

All of the components of this product are on the DSL Inventory or exempt.

**Canadian Environmental  
Protection Act (CEPA)  
Priorities Substances Lists:**

No component of this product is on the CEPA First Priorities Substance Lists.

**Canadian Whims Classification  
and Symbols:**

Not regulated.

## 16. Other Information

All chemicals may pose unknown hazards and should be used with cautions. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Eagle Biosciences, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein. Users should consider this data as only a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials, as well as the safety and health of employees, customers, and protection of the environment.

### Hazard Statements

**H317:** May cause an allergic skin reaction.

### Precautionary Statements

**P261:** Avoid breathing dust/fume/gas/mist/vapours/spray.

**P272:** Contaminated work clothing should not be allowed out of the workplace.

**P280:** Wear protective gloves/protective clothing/eye protection/face protection.

**P302 + P352:** IF ON SKIN: Wash with plenty of soap and water.

**P321:** Specific treatment (see label).

**P333 + P313:** If skin irritation or rash occurs: Get medical advice/attention.

**P363:** Wash contaminated clothing before reuse.

**P501:** Dispose of contents/container.

