

## CERTIFICATE OF ANALYSIS

Product : SODIUM HYALURONATE, POWDER(HMW)  
Lot No. : CHP1140917

Testing Date Sep. 17. 2014.  
Manuf Date Sep. 17. 2014.  
Retest Date Sep. 16. 2016

Analytical Tests	Specifications	Results
DESCRIPTION	White powder	Pass
APPEARANCE OF 0.5% SOLUTION	Colorless , Clear and viscous liquid	Pass
pH (0.5%)	5.0~8.0	6.86
HEAVY METALS	Max. 20ppm	Pass
ARSENIC	Max. 2ppm	Pass
WATER CONTENT(KF)	Max. 10.0%	5.24%
*URONIC ACID CONTENT	45.0~48.4 %	48.11%
*SODIUM HYALURONATE	93~100 %	99.44%
*PROTEIN CONTENT	Max. 0.1 %	Not detected
*RESIDUE ON IGNITION	Max. 10 %	8.64%
OTHER ACIDIC MUCOPOLYSACCHARIDE	Not Detected	Pass
MOLECULAR WEIGHT (Calculated by GPC chromatography)	1.8~2.5 Mda	1.9.Mda
TOTAL PLATE COUNT	Less than $1 \times 10^2$ CFU/g	Pass
HEMOLYTIC STREPTOCOCCI	Not Detected	Pass

\* : Calculated on dry basis

Approved by Tae Hyun Kim  
Quality Control Manager

# Material Safety Data Sheet

According to 1907/2006/CE, Article 31

First issue date : Aug. 31, 2005

Revision date : Jun. 30, 2014

## 1. Identification of the product and company

### 1.1 Identification of the substance/preparation:

-Product name: BIO-SODIUM HYALURONATE POWDER (HMW)

### 1.2 Identification of the company:

-Manufacturer & Supplier:

BIOLAND

59 Songjeongni 2-gil, Byeongcheon, Dongnam

Cheonan, Chungnam, 330-863, Korea

Tel : 82-41-550-7700

Fax : 82-41-550-7709

-Information department: R&D Center

-Emergency telephone number: Tel : 82-41-550-7801/Site safety department

-Email address : [bioland@biolandkorea.com](mailto:bioland@biolandkorea.com)

## 2. Hazards identification

2.1 Hazard description: None

## 3. Composition data on ingredients

### 3.1 Chemical characterization:

-Components:

Sodium Hyaluronate

CAS No

9067-32-7

EINECS No

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-Dangerous components:

None

## 4. First aid measures

### 4.1 Swallowing:

After swallowing of large amounts and in case of indisposition, induce vomiting, if necessary consult a doctor.

### 4.2 Eye contact: Wash out with plenty of water

## 5. Fire fighting measures

### 5.1 Suitable extinguishing media: Water, foam, powder, CO<sub>2</sub>

### 5.2 Unsuitable extinguishing media: No limitation

### 5.3 Special hazards: None

## 6. Accidental release measures

### 6.1 Person-related safety precautions: No necessary

### 6.2 Measures for environmental protection:

Do not allow product to reach sewage system or any watercourse.

### 6.3 Measures for cleaning/collecting:

Absorb liquid components with liquid-binding material and eliminate minor let amounts with water.

## 7. Handling and storage

### 7.1 Handling

-Information for safe handling: No special measures required.

-Information about protection against explosion and fire: No special measures required.

### 7.2 Storage

- Should be stored at room temperature (2~8°C) in a tightly closed and lightproof container.

## 8. Personal protection information

Eye protection

## 9. Physical and chemical properties

### 9.1 Appearance : White powder

9.2 pH (0.5% solution in demineralized water) : 5.0 ~ 8.0

9.3 Solubility in/ Miscibility with Water : soluble

9.4 Organic solvents : Soluble in many organic solvents

## 10. Stability and reactivity

The product is stable at low temperature (~15°C) in a tightly closed and lightproof container.

## 11. Toxicological information

There are no toxicological data existing for this product.

## 12. Ecological information

There are no ecological data existing for this product.

## 13. Disposal considerations

13.1 Recommendation about product: Must be disposed in an incinerator.

13.2 Recommendation about packaging: Disposal must be made according to official regulations.

## 14. Transport information

The product is not classified.

## 15. Prescriptions

Labeling as dangerous goods is not required.

## 16. Other information

The information herein is given in good faith and corresponding to our present state of knowledge and experience. The safety data sheet serves as a description of the product in regard to necessary safety measures. The indications have not the meaning of guarantees on properties. -Contact: Dr. K. H. Kim, R&D Center