



# Material Safety Data Sheet

## Nisin MSDS

### 1. SUBSTANCE IDENTIFICATION

- 1.1. Product Name: [Nisin](#)
- 1.2. Description: Nisin is a polycyclic antibacterial peptide manufactured through fermentation using the bacterium *Lactococcus lactis*.
- 1.3. Chemical Formula: C<sub>143</sub>H<sub>230</sub>N<sub>42</sub>O<sub>37</sub>S<sub>7</sub>
- 1.4. Molecular weight: 3354.07
- 1.5. CAS #: 1414-45-5
- 1.6. EINECS #: 215-807-5
- 1.7. Manufactured by: Foodchem International Corporation, Shanghai China.
- 1.8. Supplied by: Foodchem International Corporation, Shanghai China.
- 1.9. Usage: In food as Preservatives

### 2. Composition

- 2.1. Nisin: 99%
- 2.2. Hazardous impurities: Arsenic 1 mg/kg, Lead 1 mg/kg, Mercury 1 mg/kg

### 3. Physical/Chemical Characteristics

- 3.1. Physical State: powder
- 3.2. Appearance: Light brown to cream white powder
- 3.3. Odor: Odorless
- 3.4. pH: 3.1- 3.6
- 3.5. Melting point/range: Not available
- 3.6. Boiling point: Not available
- 3.7. Bulk density: Not available
- 3.8. Solubility: Not available

### 4. Stability/Reactivity

- 4.1. Chemical Stability: Stable under normal temperatures and pressures
- 4.2. Shelf Life: 24 months period
- 4.3. Hazardous decomposition: Not Applicable
- 4.4. Hazardous polymerization: Will not occur
- 4.5. Incompatible with: Not available

### 5. Handling/Storage

- 5.1. Storage: Stored with original packing under 20 °C in cool and dry condition, away from direct sunlight.
- 5.2. Handling precaution: Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe dust.

### 6. Exposure Control

- 6.1. Engineering Controls: Safety shower and eye bath. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations below their respective threshold limit value.
- 6.2. Respiratory protection: NIOSH/MSHA or European Standard EN 154 approved respirator
- 6.3. Eye Protection: Protective eyeglasses or chemical safety goggles
- 6.4. Skin Protection: Wear appropriate protective gloves and clothes to minimize skin contact.
- 6.5. Other: Consult professionals if Nisin need to be handled under some special conditions.



## 7. Hazards Identification

- 7.1. Hazardous overview: Nisin is Slightly hazardous in case of inhalation, skin contact, ingestion or eye contact.
- 7.2. Contact with eyes: May cause eye irritation.
- 7.3. Contact with skin: May cause skin irritation.
- 7.4. Ingestion: May cause irritation of the digestive tract.
- 7.5. Inhalation: May cause respiratory tract irritation.
- 7.6. Other: Not Applicable

## 8. First Aid Measures

- 8.1. Contact with eyes: Flush immediately with plenty of water for 20 minutes and seek medical advice
- 8.2. Contact with skin: Wash the affected area with water, remove contaminated clothing and launder before re-use. Seek medical advice if irritation develops or persists.
- 8.3. Ingestion: No specific treatment is necessary
- 8.4. Inhalation: Remove from exposure, move to fresh air and seek medical advice immediately.

## 9. Fire and Explosion Data

- 9.1. General information: May be combustible at high temperature.
- 9.2. Flash point: Not Applicable
- 9.3. Ignition control: Avoid ignition sources where Nisin dust might be generated
- 9.4. Dust control: Keep the handling area with adequate ventilation
- 9.5. Extinguishing Media: Not applicable
- 9.6. Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container

## 10. Transport Information

- 10.1. No special requirements and no restrictions on transportation by land, sea or air.

## 11. Ecological Information

- 11.1. Nisin is fully biodegradable and the products of degradation are not toxic.

## 12. Other Information

- 12.1. This Safety Data Sheet of Nisin is based upon a limited review of Foodchem International Corporation files and standard Toxicological handbooks. We make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Foodchem International Corporation be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Foodchem International Corporation has been advised of the possibility of such damages.

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