

MATERIAL SAFETY DATA SHEET**SAFETY DATA SHEET****1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING**

Product Name: Nisin.

CAS No.: 1414-45-5

Company: Alfa Chemistry

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Product Uses To be used only for scientific research and development. Not for use in humans or animals.

2. HAZARDS IDENTIFICATION**GHS Classification (United States)**

Skin irritation (Category 2)

Eye irritation (Category 2A)

Specific target organ toxicity - single exposure (Category 3), Respiratory system

Pictogram(s)**Signal word:**

Warning

Hazard statement(s)

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

Precautionary statement(s):

P261 Avoid breathing dust/fume/gas/mist/vapors/spray.

P264 Wash skin thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

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

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

P304+P340 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P312 Call a poison center or doctor if you feel unwell.

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P321 Specific treatment (see supplemental first aid instructions on this label).

P332+P313 If skin irritation occurs: Get medical advice/attention.

P337+P313 If eye irritation persists: Get medical advice/attention.

P362 Take off contaminated clothing and wash before reuse.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

P501 Dispose of contents/container to an approved waste disposal plant.

Hazards not otherwise classified (HNOC) or not covered by GHS: None.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms: Not available.

CAS#: 1414-45-5

Purity: Not available.

EC: 215-807-5

4. FIRST AID MEASURES

General Information: Immediately remove any clothing contaminated by the product.

Move out of dangerous area. Consult a physician and show this safety data sheet.

Inhalation: Move person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Obtain medical aid.

Skin contact: Immediately flush skin with running water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Obtain medical aid immediately.

Eye contact: Immediately flush open eyes with running water for at least 15 minutes. Obtain medical aid immediately.

Ingestion: Do NOT induce vomiting without medical advice. Rinse mouth with water. Never administer anything by mouth to an unconscious person. Obtain medical aid immediately.

Most important symptoms and effects, both acute and delayed: No further information available. Please see sections 2 and 11.

Indication of any immediate medical attention and special treatment needed: No further information available.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Use water spray, dry chemical, carbon dioxide, or chemical foam.

Specific hazards arising from the chemical: Carbon oxides, Nitrogen oxides, Sulfur oxides.

Advice for firefighters: As in any fire, wear a NIOSH-approved or equivalent, pressure-demand, self-contained breathing apparatus and full protective gear. During a fire,

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irritating and highly toxic gases may be generated by thermal decomposition or combustion.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Wear protective equipment and keep unprotected personnel away. Ensure adequate ventilation. Remove all sources of ignition. Prevent further leak or spill if safe to do so. For personal protective equipment, please refer to section 8.

Environmental precautions: Do not let product enter drains, other waterways, or soil.

Methods and materials for containment and cleaning up: Prevent further leak or spill if safe to do so. Vacuum, sweep up, or absorb with inert material and place into a suitable disposal container. Consult local regulations for disposal. See section 13 for further disposal information.

7. HANDLING AND STORAGE

Precautions for safe handling: Avoid contact with skin, eyes, and personal clothing. Wash hands thoroughly after handling. Avoid breathing fumes. Use only with adequate ventilation. Wear suitable protective clothing, gloves, and eye/face protection. Keep away from sources of ignition. Minimize dust generation and accumulation. Keep container tightly closed. Open and handle container with care. Do not eat, drink, or smoke while handling.

Conditions for safe storage, including any incompatibilities: Store in a tightly-closed container when not in use. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from sources of ignition. Store long-term at 2-8°C.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limits:

OSHA PEL: Not available.

NIOSH REL: Not available.

ACGIH TLV: Not available.

Appropriate engineering controls: Avoid contact with skin, eyes, and clothing. Wash hands before breaks and immediately after handling the product. Facilities storing or utilizing this material should be equipped with an eyewash fountain. Use adequate general and local exhaust ventilation to keep airborne concentrations low.

Personal protection

Eyes: Based on an evaluation of the eye or face hazards present, wear chemical splash-resistant safety glasses or goggles with side protection. A face shield may be appropriate in some workplaces. Use eyewear tested and approved under appropriate government standards such as OSHA 29 CFR 1910.133 or EU EN166.

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Hands: Wear gloves selected based on an evaluation of the possible hazards to hands and skin, the duration of use, the physical conditions of the workplace, and the chemical resistance and physical properties of the glove material.

Skin and body: Protective clothing must be selected based on the hazards present in the workplace, the physical environment, the duration of exposure, and other factors. No fabric can provide protection against all potential hazards; therefore it is important to select the appropriate protective clothing for each specific hazard. At the minimum, wear a laboratory coat and close-toed footwear.

Respiratory: Respirators are not a substitute for accepted engineering control measures such as enclosure or confinement of the operation, general and local ventilation, and substitution of less toxic materials. When respiratory personal protective equipment is appropriate based on an assessment of respiratory hazards in the workplace, use a NIOSH- or CEN-certified respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Appearance	Solid
Odor	No data available
pH	No data available
Melting point/freezing point	No data available
Initial boiling point and boiling range	No data available
Flash point	No data available
Evaporation rate	No data available
Upper/lower flammability or explosive limits	No data available
Flammability (Solid/Gas)	No data available
Vapour pressure	No data available
Relative density	No data available
Vapour density	No data available
Specific Gravity (relative density)	No data available
Water solubility	No data available
Partition Coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Explosive Properties	No data available
Oxidizing Properties	No data available
Other Information	No data available

10. STABILITY AND REACTIVITY

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Reactivity: Not available.

Chemical stability: Stable under recommended temperatures and pressures.

Possibility of hazardous reactions: Not available.

Conditions to avoid: Dust generation.

Incompatible materials: Strong oxidizing agents.

Hazardous decomposition products: Carbon oxides, Nitrogen oxides, Sulfur oxides.

11. TOXICOLOGICAL INFORMATION

RTECS# Not available.

Acute toxicity: Not available.

Routes of exposure: Inhalation, eye contact, skin contact, ingestion.

Symptoms related to the physical, chemical and toxicological characteristics:

Skin contact may result in inflammation characterized by itching, scaling, reddening, blistering, pain or dryness. Eye contact may result in redness, pain or severe eye damage. Inhalation may cause irritation of the lungs and respiratory system.

Overexposure may result in serious illness or death.

Carcinogenicity

IARC: Not classified.

NTP: Not listed.

OSHA: Not listed.

Acute toxic effects: Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

12. ECOLOGICAL INFORMATION

Ecotoxicity: Not available.

Persistence and degradability: Not available.

Bioaccumulative potential: Not available.

Mobility in soil: Not available.

Other adverse effects: Not available.

13. DISPOSAL CONSIDERATIONS

Disposal of waste: Chemical waste generators must determine whether a discarded chemical is classified as hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification. Observe all federal, state and local regulations when disposing of the substance.

Disposal of packaging: Not listed.

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14. TRANSPORT INFORMATION

DOT (US)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

Further information

Not classified as dangerous in the meaning of transport regulations.

15. REGULATORY INFORMATION

TSCA (United States)

Not Available.

California Proposition 65: Not Available.

NFPA Rating: Health: Not available.

Flammability: Not available.

Instability: Not available.

16. OTHER INFORMATION

Further information

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