Date of issue: 1st October, 2007
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SAFETY DATA SHEET

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1. Identification of the substance: N-Acetyl-L-Cysteine
1.2. Uses of the substance: Various use (drugs, nutritional, industrial)
1.3. Details of the supplier of the safety data sheet:

Name of manufacture/supplier: Nippon Protein Co., Ltd.
Address: 575-1, Shimada-Cho, Ashikaga-Shi, Tochigi-Ken 326-0337, Japan
Telephone number: +81-0284-73-0111
Fax number: +81-0284-73-0753

1.4. Emergency telephone number: +81-0284-73-0111

Section 2: Hazards identification

2.1. Classification of the substance

Physical Hazards:	Classification not possible
Health Hazards	Classification not possible
Environmental Hazards:	Classification not possible

2.2. Label Elements Not applicable
2.3. Other hazards: Irritating to mucous membranes, eyes and skin.
Will increase the biological oxygen demand (BOD) of water.

Section 3: Composition/ information on ingredients

3.1. Substance

Common Chemical name:	N-Acetyl-L-Cysteine
Synonyms:	N-Acetyl-(R)-2-Amino-3-mercaptopropionic acid
Formula:	$C_5H_9NO_3S$
Molecular Weight:	163.19
Composition	98.0 - 101.0%
CAS No.:	616-91-1
IUPAC:	N-Ac-L-Cys

Section 4: First aid measures

4.1. Description of first aid measures

Inhalation: Immediately relocate to a fresh air environment. Rinse mouth with water. If not breathing, give artificial respiration. If breathing becomes difficult, give oxygen and seek medical attention.

Skin Contact: Wash with soap and copious amounts of water. If irritation persists, seek medical attention.

Eye Contact: Immediately flush eyes with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating eyelids with fingers. If contact lenses are being worn, remove lenses and continue rinsing. Seek medical attention.

Ingestion: Rinse mouth with water and seek medical attention.

4.2. Most important symptoms and effects, both acute and delayed

No information available.

4.3. Indication of any immediate medical attention and special treatment needed

No information available

Section 5: Firefighting measures

5.1. Extinguishing media:

Water spray, carbon dioxide, dry chemical powder/foam

5.2. Special hazard arising from the substance or mixture

Flash point (method used): Not known

Flammable limits: Not known

5.3. Advice for firefighters

Special fire fighting procedures: Minimize dust formation

Unusual fire and explosion hazards: Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Upon combustion will result in carbon monoxide, carbon dioxide nitrogen oxide, chlorine and hydrogen chloride being released.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Shovel dry material into container and dispose material in accordance with local regulations. Prevent spills from entering sewers and watercourses. Avoid dust generation. Ventilate area. After material removal, rinse spill site with water.

6.2. Environmental precautions

No information available

6.3. Methods and material for containment and cleaning up

No information available

6.4. Reference to other sections

Personal protection: see section8

Section 7: Handling and storage

7.1. Precautions for safe handling

Follow good industrial practice in housekeeping and personal hygiene.

Wear personal protective equipment as outlined in section 8.

7.2. Conditions for safe storage, including any incompatibilities

Store in closed containers in a dry area. Avoid humidity, sunlight and high temperature.

Section 8: Exposure controls/ personal protection

8.1. Control parameters

Occupational Exposure Limits: Not established

8.2. Exposure controls

Respiratory protection: Dust mask or appropriate respirator. Utilize local exhaust ventilation.

Protective gloves: Rubber

Eye protection: Chemical safety goggles

Other protective equipment: Wear appropriate laboratory apparel, protect exposed skin.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance:	White crystals or crystalline powder
Melting point:	106-110°C
Solubility:	About 17g/100g H2O (20°C)
pH:	2.0-2.8 (1.0g in 100mL of H_2O)

Section 10: Stability and reactivity

10.1. Reactivity

See section10.4.

10.2. Chemical stability

Stable under normal temperature and pressures

10.3. Possibility of hazardous reactions

None especially

10.4. Conditions to avoid

Humidity and high temperature

10.5. Incompatibility materials

None especially

10.6. Hazardous decomposition products

Nitrogen oxides (combustion)

Section 11: Toxicological information

11.1. Information on toxicological effects

Acute oral toxicity:	No data available
Mutagenicity:	No data available
Sensitization:	No data available
Primary skin irritation:	No data available
Primary eye irritation:	No data available

Section 12: Ecological information

12.1. Toxicity

No data available

12.2 .Persistence and degradability

No data available

12.3 Bio accumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT and vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects

No information available

Section 13: Disposal consideration

13.1. Waste treatment methods

Dispose of the material as you would with a non-hazardous material in accordance with all applicable

national, state and local regulations.

Section 14: Transport information

14.1.-14.5 Not classified as dangerous in meaning of transport regulations

14.6. Special precautions for users

Avoid humidity and high temperature. Prevent damage of the container.

14.7 Transport in Bulk according to Annex II of MARPOL 73/78 and the IBC code.

Section 15: Regulatory information

15.1 Safety, health, and environmental regulations/legislation specific for the substance or mixture

None especially.

The information given in this Material Safety Data Sheet does not replace the users own assessment of workplace risk as required by national, state and local health and safety legislation.

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

Section 16: Other information

The information contained in this MSDS is, to the best of our knowledge true and accurate. Any recommendations or suggestions made are without guarantee, since the conditions of use are beyond our control.