

Date: 04.01.2005

Former date: 10.06.2004

**1. IDENTIFICATION OF THE CHEMICAL AND OF THE MANUFACTURER, IMPORTER OR OTHER UNDERTAKING****1.1 Identification of the substance or preparation**

Trade name

HIGH ENERGY N-POWDER

Code of the preparation

N500-series

**1.2 Use of the chemical****1.2.1 The intended uses of the chemical**

Propellant for ammunition.

**1.2.2 Standard industrial classification (SIC)**

24610

**1.2.3 Use categories (UC62)**

TOL1: 296 KT1: 36

**1.2.4 The chemical can be used by the general public****1.2.5 The chemical is used by the general public only****1.3 Identification of the manufacturer, importer or other undertaking****1.3.1 Manufacturer, importer, other undertaking**

EURENCO Vihtavuori Oy

**1.3.2 Contact information:**

Street address

Ruutitehtaantie 80

Postcode and post office

FIN- 41330 Vihtavuori

Post-office box

Postcode and post office

Telephone number

+358-14-3779 211

Telefax

+358-14-3771 460

Y code

FI14922233

**1.3.3 Information on foreign manufacturer****1.4 Emergency telephone****1.4.1 Telephone number, name and address**

Telephone number +358-14-3779211

Telefax +358-14-3771643

EURENCO Vihtavuori Oy, 41330 VIHTAVUORI

**2. COMPOSITION AND INFORMATION ON INGREDIENTS****2.1 Hazardous ingredients**

2.1.1 CAS number or other code	2.1.2 Name of the ingredient	2.1.3 Concentration	2.1.4 Warning symbol, R phrases and other data on the ingredient
603-037-00-6 Ind	Nitrocellulose	max. 90 %	E; R3;R1
13114-72-2	N-methyl-N,N-diphenylurea (Acardite II)	max. 3 %	Xn; R22
55-63-0	Nitroglycerin	max. 30 %	E; R3; T+ R26/27/28;R33;N;R51/53

**2.1.5 There has been a request for confidentiality of a substance according to Annex 3 of the decree****2.1.6 A substance not dangerous has been indicated as confidential****2.1.7 Other information****3. HAZARDS IDENTIFICATION**

Risk of explosion by shock, friction, fire or other sources of ignition. Harmful by inhalation, in contact with skin and if swallowed.

<b>4.</b>	<b>FIRST AID MEASURES</b>
<b>4.1</b>	<b>Special instructions</b> Move patients to fresh air.
<b>4.2</b>	<b>Inhalation</b> Heating can release hazardous gases, nitrogen oxides (NO <sub>x</sub> ). In case of fire and/or explosion do not breathe fumes. Remove from exposure, lie down. Oxygen or artificial respiration if needed. Obtain medical attention.
<b>4.3</b>	<b>Skin contact</b> Wash off immediately with soap and plenty of water.
<b>4.4</b>	<b>Eye contact</b> Rinse thoroughly with plenty of water, also under the eyelids.
<b>4.5</b>	<b>Ingestion</b> Induce repeated vomiting.
<b>4.6</b>	<b>Information to doctor or other trained persons giving first aid</b> Effects of breathing high concentrations of vapour may include nitrogen oxides (NO <sub>x</sub> ). Symptoms of poisoning may not appear for several hours. Keep under medical supervision for at least 48 hours.
<b>5.</b>	<b>FIRE-FIGHTING MEASURES</b>
<b>5.1</b>	<b>Suitable extinguishing media</b> Recommended extinguishing media, <b>Water</b> . Also other endothermic extinguishing media extinguisher are possible.
<b>5.2</b>	<b>Extinguishing media which must not be used for safety reasons</b>
<b>5.3</b>	<b>Special exposure hazards in a fire</b> In case of fire and/or explosion do not breathe fumes which may contains nitrogen oxides (NO <sub>x</sub> ). Evacuate personnel to safe areas.
<b>5.4</b>	<b>Special protective equipment for fire-fighters</b>
<b>5.5</b>	<b>Other instructions</b> Wear self-contained breathing apparatus and protective suit.
<b>6.</b>	<b>ACCIDENTAL RELEASE MEASURES</b>
<b>6.1</b>	<b>Personal precautions</b> Remove all sources of ignition.
<b>6.2</b>	<b>Environmental precautions</b> Risk of explosion.
<b>6.3</b>	<b>Methods for cleaning up</b> Use mechanical handling equipment.
<b>6.4</b>	<b>Other instructions</b>
<b>7.</b>	<b>HANDLING AND STORAGE</b>
<b>7.1</b>	<b>Handling</b> Store in a cool and shaded area. Take precautionary measures against static discharges. Keep out of children. Handle and open container with care. Do not smoke. Keep away from heat and sources of ignition.
<b>7.2</b>	<b>Storage</b> Store in original container. Keep in a dry, cool place. Incompatible with acids and bases.
<b>7.3</b>	<b>Specific use(s)</b>
<b>8.</b>	<b>EXPOSURE CONTROLS/PERSONAL PROTECTION</b>
<b>8.1</b>	<b>Exposure limit values</b>
<b>8.1.1</b>	<b>HTP values</b> Organic dust: (8h) = 5 mg/m <sup>3</sup> , (15 min) = 10 mg/m <sup>3</sup>
<b>8.1.2</b>	<b>Other limit values</b>
<b>8.1.3</b>	<b>Limit values in other countries</b>

<b>8.2</b>	<b>Exposure controls</b>
<b>8.2.1</b>	<b>Occupational exposure controls</b> Ensure adequate ventilation. By risk of inhalation of dust or continuous skin contact personal protection instrument shall be used.
<b>8.2.1.1</b>	<b>Respiratory protection</b> Half mask with a particle filter P2 (European Norm EN 143 = former DIN 3181) by risk of dust.
<b>8.2.1.2</b>	<b>Hand protection</b> Suitable protective gloves by risk of direct skin contact.
<b>8.2.1.3</b>	<b>Eye protection</b> Use if there is a risk for direct contact.
<b>8.2.1.4</b>	<b>Skin protection</b> Protective suit, recommend antistatic and non-flammable material.
<b>8.2.2</b>	<b>Environmental exposure controls</b>
<b>9.</b>	<b>PHYSICAL AND CHEMICAL PROPERTIES</b>
<b>9.1</b>	<b>General information (physical state, colour and odour)</b> Solid flakes or granular, dark grey, characteristic odour.
<b>9.2</b>	<b>Important health, safety and environmental information</b>
<b>9.2.1</b>	<b>pH</b>
<b>9.2.2</b>	<b>Boiling point/boiling range</b>
<b>9.2.3</b>	<b>Flash point</b> min 165°C
<b>9.2.4</b>	<b>Flammability (solid, gas)</b> Extreme risk of ignition by shock, friction, fire or other sources of ignition.
<b>9.2.5</b>	<b>Explosive properties</b>
<b>9.2.5.1</b>	<b>Lower explosive limit</b>
<b>9.2.5.2</b>	<b>Upper explosive limit</b>
<b>9.2.6</b>	<b>Oxidising properties</b>
<b>9.2.7</b>	<b>Vapour pressure</b>
<b>9.2.8</b>	<b>Relative density</b> 1,5- 1,6 g/cm <sup>3</sup>
<b>9.2.9</b>	<b>Solubility</b>
<b>9.2.9.1</b>	<b>Water solubility</b> Insoluble
<b>9.2.9.2</b>	<b>Fat solubility (solvent-oil to be specified)</b> Organic dissolvents: ketone, ester and for instance methylcyanide.
<b>9.2.10</b>	<b>Partition coefficient: n-octanol/water</b>
<b>9.2.11</b>	<b>Viscosity</b>
<b>9.2.12</b>	<b>Vapour density</b>
<b>9.2.13</b>	<b>Evaporation rate</b>
<b>9.3</b>	<b>Other information</b> Explosive
<b>10.</b>	<b>STABILITY AND REACTIVITY</b>
<b>10.1</b>	<b>Conditions to avoid</b>

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Stable at normal conditions. Keep in a dry, cool place.

- 10.2 Materials to avoid**  
Incompatible with acids and bases.
- 10.3 Hazardous decomposition products**  
Nitrogen oxides (NO<sub>x</sub>)

## 11. TOXICOLOGICAL INFORMATION

- 11.1 Acute toxicity**  
No data available.
- 11.2 Irritation and corrosiveness**  
May cause skin and eye irritation in susceptible persons.
- 11.3 Sensitisation**  
No data available.
- 11.4 Sub-acute, sub-chronic and prolonged toxicity**  
No data available.
- 11.5 Empirical data on effects on humans**  
May cause skin irritation with susceptible persons.  
May cause irritation of the mucous membranes.
- 11.6 Other information on health effects**

## 12. ECOLOGICAL INFORMATION

### 12.1 Ecotoxicity

- 12.1.1 Aquatic toxicity**  
Harmful to aquatic organisms-may cause long-term adverse effects in the aquatic environment.
- 12.1.2 Toxicity to other organisms**  
No data available.
- 12.2 Mobility**

### 12.3 Persistence and degradability

- 12.3.1 Biodegradation**  
No data available.
- 12.3.2 Chemical degradation**  
Incompatible with acids and bases, degradation. Long run heat decreases stability.
- 12.4 Bioaccumulative potential**
- 12.5 Other adverse effects**

## 13. DISPOSAL CONSIDERATIONS

Contaminated package accordance with local and national regulations.  
Waste from residues and unused products dispose of as special waste in compliance with local and national regulations.

## 14. TRANSPORT INFORMATION

- 14.1 UN number**  
0161
- 14.2 Packing group**  
II
- 14.3 Land transport**
- 14.3.1 Transport class**  
1.3C
- 14.3.2 Risk code**  
E Explosive
- 14.3.3 Name according to bill of freight**  
Powder, smokeless
- 14.3.4 Other information**

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<b>14.4</b>	<b>Sea transport</b>
<b>14.4.1</b>	<b>IMDG class</b> Class 1. Explosives 1.3C
<b>14.4.2</b>	<b>Correct technical name</b> Powder, smokeless
<b>14.4.3</b>	<b>Other information</b>
<b>14.5</b>	<b>Air transport</b>
<b>14.5.1</b>	<b>ICAO/IATA class</b> <b>FORBIDDEN</b>
<b>14.5.2</b>	<b>Correct technical name</b>
<b>14.5.3</b>	<b>Other information</b>
<b>15.</b>	<b>REGULATORY INFORMATION</b>
<b>15.1</b>	<b>Information on the warning label</b>
<b>15.1.1</b>	<b>Letter code of the warning symbol and indications of danger for the preparation</b> E - Explosive T+ - Very toxic
<b>15.1.2</b>	<b>Names of the ingredients given on the warning label</b> Nitrocellulose, N-methyl-N,N-diphenylurea, Nitroglycerin
<b>15.1.3</b>	<b>R phrases</b> R2 Risk of explosion by shock, friction, fire or other sources of ignition. R26/27/28 Very toxic by inhalation, in contact with skin and if swallowed. R33 Danger of cumulative effects. R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
<b>15.1.4</b>	<b>S phrases</b> S1/2 Keep locked-up and out of reach of children. S35 This material and its container must be disposed of in a safe way. S36/37 Wear suitable protective clothing and gloves. S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)
<b>15.1.5</b>	<b>Special regulations on certain preparations</b>
<b>15.2</b>	<b>National regulations</b>
<b>16.</b>	<b>OTHER INFORMATION</b>
<b>16.1</b>	<b>List of the relevant R phrases</b>
<b>16.2</b>	<b>Training advice</b>
<b>16.3</b>	<b>Restrictions on use</b>
<b>16.4</b>	<b>Further information</b> The information provided in this Safety Data Sheet is correct to the best of our knowledge at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification, since the conditions of the operations mentioned are beyond our control. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process unless specified in the text. EURENCO Vihtavuori Oy disclaims any liability for loss or damage resulting from the use of these data, information or suggestions.
<b>16.5</b>	<b>Sources of key data used</b>
<b>16.6</b>	<b>Information which has been added, deleted or revised</b>