

VihtaVuori

VihtaVuori N500 Series
MATERIAL SAFETY DATA SHEET
April 2009

The following **N500** series powders are manufactured by VihtaVuori®
and distributed by Hodgdon Powder Company.

N530
N540
N550
N560

Date: 10.10.2008

Former date: 04.01.2005

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/High Energy-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

FI- 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, FI- 41330 VIHTAVUORI
FINLAND**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. Very toxic by inhalation, in contact with skin and if swallowed. Danger of cumulative effects.

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

4. FIRST AID MEASURES

- 4.1 Special instructions**
Move patients to fresh air.
- 4.2 Inhalation**
Heating can release hazardous gases, nitrogen oxides (NO_x). 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.
- 4.3 Skin contact**
Wash off immediately with soap and plenty of water.
- 4.4 Eye contact**
Rinse thoroughly with plenty of water, also under the eyelids.
- 4.5 Ingestion**
Induce repeated vomiting. (only if the victim is conscious), seek for medical advice.
- 4.6 Information to doctor or other trained persons giving first aid**
Exposing to nitrogen oxides (NO_x) may cause symptoms of poisoning after several hours. Keep under medical supervision for at least 48 hours.

5. FIRE-FIGHTING MEASURES

- 5.1 Suitable extinguishing media**
Recommended extinguishing media, water. Also other endothermic extinguishing media are possible.
- 5.2 Extinguishing media which must not be used for safety reasons**
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- 5.3 Special exposure hazards in a fire**
In case of fire and/or explosion do not breathe fumes which may contain nitrogen oxides (NO_x). Evacuate personnel to safe areas.
- 5.4 Special protective equipment for fire-fighters**
Wear self-contained breathing apparatus and protective suit.
- 5.5 Other instructions**
Can only be extinguished by effective cooling. Burns without auxiliary oxygen. Very fast, deflagration like burning, may turn to explosion. At risk of fire people shall be evacuated to a safe distance.

6. ACCIDENTAL RELEASE MEASURES

- 6.1 Personal precautions**
Remove all sources of ignition.
- 6.2 Environmental precautions**
Risk of explosion.
- 6.3 Methods for cleaning up**
In order to avoid ignition, do not use mechanical handling equipment. Seek professional advice.
- 6.4 Other instructions**
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7. HANDLING AND STORAGE

- 7.1 Handling**
Keep out of children. Keep away from heat and sources of ignition. Handle and open containers with care. Do not smoke. Take precautionary measures against static discharges. Ensure adequate ventilation. Wear suitable protective clothing and gloves. Avoid exposing to the product and read the instructions carefully before use.
- 7.2 Storage**
Store in original container. Keep in a dry, cool place. Incompatible with acids and bases.
- 7.3 Specific use(s)**
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|--------------|--|
| 8. | EXPOSURE CONTROLS/PERSONAL PROTECTION |
| 8.1 | Exposure limit values |
| 8.1.1 | HTP values Organic dust: 5 mg/m ³ (8h), 10 mg/m ³ (15 min) |
| 8.1.2 | Other limit values - |
| 8.1.3 | Limit values in other countries - |
| 8.2 | Exposure controls |
| 8.2.1 | Occupational exposure controls Ensure adequate ventilation. Wear personal protective equipment in risk of inhalation of dust or continuous skin contact. |
| 8.2.1.1 | Respiratory protection Wear half mask with a particle filter P2 (European Norm EN 143 = former DIN 3181) by risk of dust. |
| 8.2.1.2 | Hand protection Wear suitable protective gloves by risk of direct skin contact. |
| 8.2.1.3 | Eye protection Wear protective glasses. |
| 8.2.1.4 | Skin protection Wear protective clothing; recommended antistatic and non-flammable material. |
| 8.2.2 | Environmental exposure controls - |
| 9. | PHYSICAL AND CHEMICAL PROPERTIES |
| 9.1 | General information (physical state, colour and odour) Solid flakes or granular, characteristic odour. Colour; Graphitized: dark grey. Colour/Not grafitized: whitish, yellowish or dark. |
| 9.2 | Important health, safety and environmental information |
| 9.2.1 | pH - |
| 9.2.2 | Boiling point/boiling range - |
| 9.2.3 | Flash point min 165°C |
| 9.2.4 | Flammability (solid, gas) Extreme risk of ignition by shock, friction, fire or other sources of ignition. |
| 9.2.5 | Explosive properties |
| 9.2.5.1 | Lower explosive limit - |
| 9.2.5.2 | Upper explosive limit - |
| 9.2.6 | Oxidising properties - |
| 9.2.7 | Vapour pressure - |
| 9.2.8 | Relative density 1,5- 1,6 g/cm ³ |
| 9.2.9 | Solubility |
| 9.2.9.1 | Water solubility Insoluble |
| 9.2.9.2 | Fat solubility (solvent-oil to be specified) Organic dissolvents: ketone, ester and for instance methylcyanide. |
| 9.2.10 | Partition coefficient: n-octanol/water - |
| 9.2.11 | Viscosity - |

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9.2.12 Vapour density

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9.2.13 Evaporation rate

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9.3 Other information

Explosive

10. STABILITY AND REACTIVITY

10.1 Conditions to avoid

Stable at normal conditions. Long-time heat exposure decreases the stability. Keep in a dry, cool place.

10.2 Materials to avoid

Incompatible with acids and bases: Degradation can cause explosion.

10.3 Hazardous decomposition products

Nitrogen oxides (NOx)

11. TOXICOLOGICAL INFORMATION

11.1 Acute toxicity

No data available.

11.2 Irritation and corrosiveness

May cause skin and eye irritation.

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.

May cause irritation of the mucous membranes.

11.6 Other information on health effects

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12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity

12.1.1 Aquatic toxicity

Toxic 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

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12.3 Persistence and degradability

12.3.1 Biodegradation

No data available.

12.3.2 Chemical degradation

Incompatible with acids and bases, defradation. Long time heat exposure decreases the stability.

12.4 Bioaccumulative potential

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12.5 Other adverse effects

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13. DISPOSAL CONSIDERATIONS

Disposal of unused products, waste and contaminated packages must be done in accordance with local and national regulations.

14. TRANSPORT INFORMATION

14.1 UN number

0161

14.2 Packing group

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|---------------|--|--|--|-----------------------------------|
| 14.3 | Land transport | | | |
| 14.3.1 | Transport class | | | |
| | | ADR 1.3C | | |
| | | Packing instructions: | P 114(b), special packing provisions PP50 and PP52 | |
| 14.3.2 | Risk code | - | | |
| 14.3.3 | Name according to bill of freight | | | |
| | | Powder, smokeless | | |
| 14.3.4 | Other information | - | | |
| 14.4 | Sea transport | | | |
| 14.4.1 | IMDG class | | | |
| | | 1.3C | | |
| | | Packing instructions: | P 114(b), special packing provisions PP50 and PP52 | |
| 14.4.2 | Correct technical name | | | |
| | | Powder, smokeless | | |
| 14.4.3 | Other information | | | |
| | | EmS; F-B, S-Y | | |
| 14.5 | Air transport | | | |
| 14.5.1 | ICAO/IATA class | | | |
| | | FORBIDDEN | | |
| 14.5.2 | Correct technical name | - | | |
| 14.5.3 | Other information | - | | |
| 15. | REGULATORY INFORMATION | | | |
| 15.1 | Information on the warning label | | | |
| 15.1.1 | Letter code of the warning symbol and indications of danger for the preparation | | | |
| | | E - Explosive | T+ - Very toxic | N – Dangerous for the environment |
| 15.1.2 | Names of the ingredients given on the warning label | | | |
| | | Nitrocellulose, N-methyl-N,N-diphenylurea, Nitroglycerin | | |
| 15.1.3 | R phrases | | | |
| | | 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. R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. | | |
| 15.1.4 | S phrases | | | |
| | | 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) | | |
| 15.1.5 | Special regulations on certain preparations | - | | |
| 15.2 | National regulations | - | | |
| 16. | OTHER INFORMATION | | | |
| 16.1 | List of the relevant R phrases | | | |
| | | R1 Explosive when dry. R3 Extreme risk of explosion by shock, friction, fire or other sources of ignition. R22 Harmful if swallowed. R26/27/28 Very toxic by inhalation, in contact with skin and if swallowed R33 Danger of cumulative effects. R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. | | |
| 16.2 | Training advice | | | |

16.3 **Restrictions on use**

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16.4 **Further information**

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.

16.5 **Sources of key data used**

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16.6 **Information which has been added, deleted or revised**

3. Revised: very toxic by inhalation... and Toxic to aquatic organisms
9.1. Added colour: not grafitized
12.1.1. Toxic
15.1.3 R phrases revised
16.1. Added