1 PRODUCT IDENTIFICATION AND NAME OF THE COMPANY

Product name: Propellant N 203 B
Application: Propellant for use in ammunition
Manufacturer: Norma Precision AB
SE 67040 Åmotfors
Phone. nr. +46(571)31500
Fax nr. +46(571)31540
Emergency telephone number: +46(571)31500

2 HAZARD IDENTIFICATION

Health hazard: Risk of explosion by shock, fire or other sources of ignition
Very toxic by inhalation, in contact with skin and if swallowed.
Danger of cumulative effects.
Harmful to aquatic organisms may cause long-term adverse effects in the aquatic environment.

3 COMPOSITION/IDENTITY INFORMATION

<table>
<thead>
<tr>
<th>Hazardous Components</th>
<th>CAS-no</th>
<th>EINECS-no</th>
<th>%</th>
<th>Danger code</th>
<th>Risk phrases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrocellulose (&gt;12.6 %)</td>
<td>9004-70-0</td>
<td>-</td>
<td>&gt;80</td>
<td>E</td>
<td>1, 3</td>
</tr>
<tr>
<td>Nitroglycerine</td>
<td>55-63-0</td>
<td>200-240-8</td>
<td>&lt;8</td>
<td>E</td>
<td>T+, N 3, 26/27/28, 33, 51/53</td>
</tr>
<tr>
<td>Diphenylamine</td>
<td>122-39-4</td>
<td>212-769-1</td>
<td>&lt;2</td>
<td>T, N</td>
<td>23/24/25, 33, 50/53</td>
</tr>
<tr>
<td>Di iso amylfhtalat</td>
<td>605-50-5</td>
<td>210-088-4</td>
<td>&lt;3</td>
<td>T, N</td>
<td>50, 60, 61</td>
</tr>
<tr>
<td>Centraleit I</td>
<td>85-98-3</td>
<td>201-645-2</td>
<td>&lt;2</td>
<td>Xn</td>
<td>22, 52/53</td>
</tr>
</tbody>
</table>

4 FIRST AID MEASURES

Inhalation: Fresh air, rest and warmth. Rinse nose, mouth and throat with water. Call for a doctor if troubles remain.
Skin contact: Take immediately off contaminated clothes/shoes. Wash with soap and water. Call for a doctor if troubles remain.
Eye contact: Rinse carefully with water. Call for a doctor if troubles remain.
Ingestion: Give a few glasses of milk or water if the person is fully conscious and try to cause vomiting. Rinse the mouth with water. Call for a doctor if troubles remain.

5 FIRE FIGHTING MEASURES

Suitable extinguishing media: Water sprinkler.
Extinguishing media not to be used: Powdered extinguishing medium.
Dangerous breaking down-product / gases: Nitrous fume.
Special protective equipment for fire-fighters: Evacuate the area, fire can be transformed into detonation, don’t attempt to extinguish.

6 ACCIDENTAL RELEASED MEASURES

Ordinary measure: Sweep up and put into marked container.
Protective equipment for clearance personal

Environmental precautions

Collection- and clearance method

Unsuitable clearance method and absorb solvent

Method for taking care of waste

7 HANDLING AND STORAGE

Ventilation with handling

Equipment with handling

Recommended temperature with handling

Equipment witch not will be used with handling

Requirement for storage and packing

Unsuitable handling and storage method

Other rules and instructions

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Threshold limits

Method of measurement

Biological limits

Specific measure for reducing exposure

Respiratory protection

Gloves

Eye protection

Protective clothing

9 PHYSICAL AND CHEMICAL PROPERTIES

Physical form

Colour
Odour Odourless

Explosion properties Explosive

Decomposition point When heated during a longer period of time decomposition can happen.

Solubility in water Insoluble

Solubility in other solvents Soluble in Ketones and esters.

Partition coefficient n-oktanol/water Log Pow = 1.88 (Nitroglycerine)

Density (kg/m$^3$) 860-900

Melting point -

Autoignition temperature Min. 175 °C

10 STABILITY AND REACTIVITY

Conditions which could affect the product stability Chock, friction, fire or other sources of ignition.

Material to avoid Alkaline substances and strong acids.

Hazardous conversion- and or decomposition products Nitrous fume.

11 TOXICOLOGICAL INFORMATION

Inhalation Dust may irritate the respiratory organs.

Ingestion Very toxic if swallowed.

Skin Penetrate easily through the skin and can give headache.

Eye Dust can irritate.

System effects with handling Have not been detectable.

Allergy cause properties No

Cancer/mutation/unborn child damage/reproduction No

Delayed health effects No

LD$_{50}$ oral rat -

12 ECOLOGICAL INFORMATION

Toxicity to aquatic organisms Microtox EC50 Daphnia 48 h: 26 mg/l, Sort: D. magna (Nitroglycerine)

Toxicity to soil organisms Function is missing.
Toxicity to micro-organisms Function is missing.

Mobility and allocation in the environmental Function is missing.

The input products degradable into the environmental Function is missing.

The input products degradable into the sewage
- BOD: 0.020 g/g (Nitroglycerine)
- COD: 0.37 g/g (Nitroglycerine)
- BOD/COD: 0.54 (Nitroglycerine)

Bioaccumulative
- BCF: 15 (Nitroglycerine)
- Log Pow = 1.62 (Nitroglycerine)

13 DISPOSAL CONSIDERATION

Handling of rest product Handling as explosive waste, Not! Explosion risk.

Handling of contaminated packaging Container handling as dangerous goods.

Risks with waste handling Product can explode during combustion.

EWC-code 160403: Discard explosive.

Dangerous waste Yes

14 TRANSPORT INFORMATION

FN/UN number 0161

Class ADR/RID, IMDG, IATA 1.3C

Proper shipping name Powder, smokeless

Packing group II

Marine Pollutant No

EMS number F-B, S-Y

EX-number (DOT/USA) EX-9109020

Other CE BAM Nr.0589.EXP.3485/99

15 REGULATORY INFORMATION

Dangerous symbols with dangerous code
- E, Explosive
- T+, Very toxic

Risk phrases
- R2, Risk of explosion by chock, 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.
SAFETY DATA SHEET

Product denomination
Norma 203 B

Safety phrases
S33, Take precautionary measures against static discharges.
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).
S61, Avoid release to the environment. Refer to special instructions/safety data sheets.

Product name
Propellant

Other regulations
Explosive legislation.

Limitation/restriction
Permit required for handling and storage.

Permission for transfer and handling
The legislation about flammable substances and explosive products. (Sweden)
Flammables and Explosives Department instruction about Permit regarding transfer of explosives.

Input product in EINECS
Yes
Exkl. Nitrocellulose

Other legislation
Safety adviser for dangerous goods.
Legislation about transport of dangerous goods.
Legislation and ordinance about manufacturing and sell of war material.

16 OTHER INFORMATION

R-phrase from point 3
R1, Explosive when dry.
R3, Extreme risk of explosion by shock, friction, fire or other sources of ignition.
R22, Harmful if swallowed.
R23/24/25, Toxic by inhalation, in contact with skin and if swallowed.
R26/27/28, Very toxic by inhalation, in contact with skin and if swallowed.
R33, Danger of cumulative effects.
R50, Very toxic to aquatic organisms.
R50/53, Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R51/53, Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R52/53, Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R60, May impair fertility.
R61, May cause harm to the unborn child.

Training for handling
Yes.

References
CAMBREX KARLSKOGA AB environment data
Arbetarskyddsstyrelsens och Kemikalieinspektionens författningssamling.
Kemiska ämnen: Prevent
RIB Integrerat beslutsstöd för skydd och olyckor.

Other
This safety data sheet is a revised edition according the new chemical rules, as EG no 1272/2008 and Reach EG no 1907/2006. The informant in this SDS is based at our existing knowledge and is based too describe the product from safety point of view.