

Issued by, department, telephone Arne Klevestrand, Quality assurance, 315 70	Date of revision 2010-08-16	Edition number 11	This edition replace 2008-07-07 ed. 10
Product denomination Norma 217			

**1 PRODUCT IDENTIFICATION AND NAME OF THE COMPANY**

Product name	Propellant N 217
Application	Propellant for use in ammunition
Manufacturer	Norma Precision AB SE-670 40 Åmotfors Tel: 0571-31500 Int. +46-571-31500 Fax: 0571-31540 Int. +46-571-31540 arne.klevestrand@norma.cc
Emergency telephone number	+46-(0)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.
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**3 COMPOSITION/IDENTITY INFORMATION**

Hazardous Components	CAS-no	EINECS-no	%	Danger code	Risk phrases
Nitrocellulose (>12.6 %)	9004-70-0	-	>80	E	1, 3
Nitroglycerine	55-63-0	200-240-8	<12	E, T+, N	3, 26/27/28, 33, 51/53
Di iso amylfhtalat	605-50-5	210-088-4	<5	T, N	50, 60, 61
Diphenylamine	122-39-4	212-769-1	<2	T, N	23/24/25, 33, 50/53
Centralite I	85-98-3	201-645-2	<2	Xn, N	22, 52/53

**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.
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Protective equipment for clearance personal      Protective equipment in case of direct contact, such as protective gloves and clothes.

Environmental precautions      Prevent the product from reaching the sewage system.

Collection- and clearance method      Sweep up and put into marked container.

Unsuitable clearance method and absorb solvent      -

Method for taking care of waste      Burned at approved place. Note! That explosive can detonate.

**7 HANDLING AND STORAGE**

Ventilation with handling      Well ventilated area if there is some contact with the product.

Equipment with handling      The equipment shall suit to the explosive sensitivity.

Recommended temperature with handling      Normal room temperature.

Equipment which will not be used with handling      Equipment which cause static electricity.

Requirement for storage and packing      To be stored in dark, tight closed containers in places approved for explosives.

Unsuitable handling and storage method      There is risk for impact, friction, fire, heating or electrostatic discharge. Handling and storage only according to valid code of laws and instruction.

Other rules and instructions      Permission for storage shall be allowed the police. Keep in a way that ensures complete safety according handling and import of explosive products.

**8 EXPOSURE CONTROLS/PERSONAL PROTECTION**

Threshold limits      Swedish limit is missing.

Method of measurement      Measuring of dust can be done according (Swedish) Arbetsmiljöverkets Method series, no M1010. Sampling of total dust and respirable dust

Biological limits      Swedish limit is missing.

Specific measure for reducing exposure      Workplace and working methods shall be worked out so that direct contact with the product contact will be prevented.

Respiratory protection      By danger of inhalation of dust, use breathing protection with dustfilter P2.

Gloves      Rubber gloves when it will become risk for direct contact.

Eye protection      Protective glasses if there is some risk that the product can irritate the eyes.

Protective clothing      Flame protection treated clothes and safety boots when working with the product.

**9 PHYSICAL AND CHEMICAL PROPERTIES**

Physical form      Single perforated grains

Colour      Grey-black

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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 <sup>3</sup> )	890-940
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 <sub>50</sub> 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.

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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 <sub>7</sub> 0,020 g/g (Nitroglycerine) COD 0,37 g/g (Nitroglycerine) BOD <sub>7</sub> /COD 0,54 (Nitroglycerine)
Bioaccumulative	BCF: 15 (Nitroglycerine) Log Pow = 1,62 (Nitroglycerin)

### 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-9701092
Other	CE BAM Nr.0589.EXP.3490/99

### 15 REGULATORY INFORMATION

Dangerous symbols with dangerous code	E, Explosive T+, Very toxic
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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. R60, May impair fertility. R61, May cause harm to the unborn child. R52/53, Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
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 chock, 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 Arbetskyddsstyrelsens 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.