

Issued by, department, telephone K. Nilsson M 31511	Date of revision 2011-02-08	Edition number 14	This edition replace 2005-07-12 ed. 13
Product denomination Norma 201			

1 PRODUCT IDENTIFICATION AND NAME OF THE COMPANY

Product name Propellant N 201

Application Propellant for use in ammunition

Manufacturer Norma Precision AB
SE 67040 Åmotfors
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2 HAZARD IDENTIFICATION

Health hazard Risk of explosion by shock, fire or other sources of ignition
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.



Explosive



Toxic

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	<5	E, T+, N	3, 26/27/28, 33, 51/53
Diphenylamine	122-39-4	212-769-1	<2	T, N	23/24/25, 33, 50/53
2,4-Dinitrotoluene	121-14-2	204-450-0	<2	T, N	45, 23/24/25, 48/22, 51/53, 62
2,4,6-Trinitrotoluene	118-96-7	204-289-6	<2	E, T, N	2, 23/24/25, 33, 51/53

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 ³)	860 - 950
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	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.

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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 ₇ 0,020 g/g (Nitroglycerine) COD 0,37 g/g (Nitroglycerine) BOD ₇ /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-9607019
Other	CE BAM Nr.0589.EXP.3478/99

15 REGULATORY INFORMATION

Dangerous symbols with dangerous code E, Explosive
T, Toxic



Risk phrases
 R2, Risk of explosion by chock, friction, fire or other sources of ignition.
 R23/24/25, Toxic by inhalation, in contact with skin and if swallowed.
 R33, Danger of cumulative effects.
 R45, May cause cancer.
 R52/53, Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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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
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. R2, Risk of explosion by chock, friction, fire or other sources of ignition. R3, Extreme risk of explosion by chock, friction, fire or other sources of ignition. 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. R45, May cause cancer. R48/22, Harmful: danger of serious damage to health by prolonged exposure in contact with skin. 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. R62, Possible risk of impaired fertility.
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.