In accordance with directive 2001/58/EC, decree of 09 November 2004 and 1907/2006/EC article 31.

1. IDENTIFICATION OF THE PRODUCT AND THE COMPANY

Product description	Types Concerned
PROPELLANT POWDER	- **TUBAL 2000** - **TUBAL 3000** - **TUBAL 5000** - **TUBAL 7000** - **TUBAL 8000**

- CE TYPE number : CE 0080.EXP.12.0006

- SUPPLIER : **NOBELSPORT**
12 route du Beuzit
29590 Pont de Buis FRANCE
Phone +33 2 98 86 42 42
Fax +33 2 98 73 08 82
Mail securite@nobelsport.fr

- EMERGENCY CALL (INRS) : Phone +33 1 45 42 59 59

2. HAZARDS IDENTIFICATION

- Behaviour of the powder within its packaging:
  * Danger of fire with minimum danger of blast and projection. No danger of mass explosion.
  * Pay particular attention to the amount of thermal flux and nitrous vapours.

- Behaviour of the powder out of its packaging:
  * The powder can change from deflagration to explosion within confined spaces. If necessary contact the manufacturer as indicated in section 16 of the data sheet.

3. COMPOSITION – INFORMATION CONCERNING THE COMPONENTS

- Nominal composition:

Preparation:
Nitrocellulose : approx 89 %
Diphenylamine: approx. 1%
Plasticisers (including dinitrotoluene): 2,5 to 7,5 %

- Components presenting a hazard:

Nitrocellulose Dinitrotoluene

4. FIRST AID

- In the event of accidental inhalation of the nitrous vapours from the decomposition of the product, keep the person totally still – oxygen should be given by the emergency medical services.

- In the event of illness contact a doctor immediately.

5. FIRE FIGHTING MEASURES

- Means of extinction:

* Flood with large quantities of water.
* Do not use means of extinction which smother the flames (carbon dioxide, foam, powder, etc.) because the nitrocellulose contains oxygen.
* After extinction of the fire, the material may remain unstable and there will be a risk of self ignition. Ensure that the remaining material is thoroughly soaked..

6. MEASURES TO BE TAKEN IN THE EVENT OF ACCIDENTAL SPILLAGE

- Individual precautions:

* Collect up the material, after having it wetted, wearing suitable individual protective equipment (see section. 8).

- Protection of the environment:

* In the event of accidental opening of the packaging clear up any spilled material.
* Do not dispose to rubbish tips or pour into drains and check that the product is identified on its container.

- Cleaning methods:

* Thoroughly soak the product with water to avoid the risk of fire.
* Collect up material using tools recommended in section. 7, while observing the safety measures associated with the handling of explosive materials.
* Store the product in packaging recommended by NOBELSPORT (see section. 14)
* For the destruction of the material, follow the recommendations in section 13.
* In the event of any specific problem contact NOBELSPORT.

7. HANDLING AND STORAGE

- Handling:

Technical measures:

* During handling, keep the product away from heat, flames and sparks, avoid friction, impact and any risk of electrostatic discharge.
* Place a screen between the operator and the product, in order to reduce the thermal flux to the work station in the event of fire.

Precautions:

* No smoking.
* Avoid the creation of dust.
* Use non ferrous tools, such as copper, brass, wood, etc.
* Ensure that the installation is correctly earthed.
* Handle with equipment which is dust proof. Do not use hollow bodies.

Recommendations for use:

* Store a minimum of product in the workshops.
* This powder can change from combustion to explosive decomposition and must be used with special precautions:
  - Use hoppers with a maximum of open surface area and central exhaust hood to allow for the escape of gases in the event of fire,
  - If a drawer distribution is used, uncouple it from the hopper,
  - Use powder feed pipes with openings (which can be closed by means of a sheet or light plastic) to avoid confinement and exceeding critical heights (see SNPE test no. 60 on the table of safety tests : ‘ Pyrotechnic safety data on products’).
  - Do not place more than 500g of powder onto the machine.
* Avoid contact with incompatible materials (see section 10).

Storage:

Technical measures:

* Remove all defective packaging,
* Do not open or empty packages in storage areas.

Storage conditions:

* Packages must be stacked in a stable manner.

* Storage in boxes or drums should be up to a maximum height of 1.60 m, from the storage base. When handling is by hand and by suitable mechanical means, the stacks must not be raised to over three metres in height.
* Store in a cool, well ventilated area.

Incompatible materials:

* Do not store with materials out of class 1, or with class 1 materials whose compatibility group would be different from C or S (see section 10).

Packaging materials:

* Storage will be made in the packaging recommended by NOBELSPORT with the maximum indicated net weight (see section. 14).

8. EXPOSURE CONTROL – INDIVIDUAL PROTECTION

Individual protection:

- Body: Anti-static and flame resistant protective clothing,
- Hands: Leather gloves,
- Face: Safety glasses, safety visor.

9. PHYSICAL AND CHEMICAL PROPERTIES

- Physical state: solid
- Form: tubular
- Odour: odourless

	TUBAL
Diameter ext. (mm)	0,6 to 1.0
Diameter int. (mm)	0,15
Length (mm)	1,3 to 1,8
MEV approx g/l	820 to 880
Potential approx. cal/g	890 to 1000
colour	Black

- Solubility:
* insoluble in water and hydrocarbons,
* soluble in solvents: ketones, esters, alcohols.

- Table of results of safety tests : ‘ Pyrotechnic safety data on products’.

10. STABILITY AND REACTIVITY

Stability:

- Stable under recommended storage and handling conditions section. 7.

Conditions to be avoided:

- Avoid exposure to heat, impact and friction.

Materials to be avoided:

- Avoid contact with alkalis, acids, amines and oxidising agents.

Dangerous decomposition products:

- Oxides of nitrogen (nitrous vapours).

11. TOXICOLOGICAL INFORMATION

- Non toxic in supplied state.
- In the event of fire, risk of release of nitrous vapours. In the event of illness contact a doctor.
- Propellant component :
  - dinitrotoluene (benzenic derived) is classified :
    - ¤ R45 : can cause cancer
    - ¤ R40 : possible irreversible effects
    - ¤ R23/24/25 : toxic by inhalation, by skin contact and by ingestion
    - ¤ R62 : possible risk of fertility impairing
  - diphenylamine is classified :
    - ¤ R23/24/25 : toxic by inhalation, by skin contact and by ingestion
    - ¤ R33 : cumulative effects hazard

12. ECOLOGICAL INFORMATIONS

The dispersal of the product in the natural environment causes no specific danger, because the product is stable (see section. 10 – stability) and insoluble in water.

Diphenylamine is classified :

R50 : Very toxic to aquatic organisms.
R53 : May cause long-term adverse effects in the aquatic environment.

13. CONSIDERATIONS RELATIVE TO ELIMINATION

Waste and residues:

- The product must not be abandoned, it must be collected for removal, as per the requirements in para. 6 then either stored under supervision as per requirements in section. 7, or destroyed in a specialist centre, by combustion with specific equipment and in thin layer.
- Do not mix with other incompatible residues (see section. 10).
- In the event of problems, it is advised to contact NOBELSPORT.
- In every case, the current environmental regulations must be observed.

Used packaging:

This can, depending on its condition, be reused for the same product or destroyed under the same conditions as for waste and residues.

14. INFORMATION RELATIVE TO TRANSPORTATION

Transportation classification in approved packaging:

Certificates for transportation classification INERIS n°Ag P 51/15 du 14/11/2007

1. Approval report no. External packaging Internal packaging Max. net weight Official description for transportation Hazard category per UN Transport by land, ADR and RID Transport by sea IMDG Transport by air OACI/IATA	BVT ABZAC N°195138 or BVT VAN LEER 1033/48 or VICMAR N° 31/E47/05/0003/01-C 45 liters cylindrical cardboard drum 1 polyethylene bag 20 kg . Powder without fumes 1.3 C UN 0161 UN 0161 Not allowed
2. Approval report no. External packaging Internal packaging Max. net weight Official description for transportation Hazard category per UN Transport by land, ADR and RID Transport by sea IMDG Transport by air OACI/IATA	BVT 1697/5 or 169713 OTOR 4 G cardboard box 20 cardboard or metal small can 10 kg . Powder without fumes 1.3 C UN 0161 UN 0161 Not allowed
3. Approval report no. External packaging Intermediate packaging Internal packaging Max. net weight Official description for transportation Hazard category per UN Transport by land, ADR and RID Transport by sea IMDG Transport by air OACI/IATA	BVT EMIN LEYDIER 249201 4 G cardboard box 59 cardboard tubes 1 polyethylene sachet per tube 2,950 kg EXPLOSIVE MATERIAL NSA 1.4 S UN 0481 UN 0481 UN 0481

4. Approval report no.	BVT 36784 index 0 on 21/10/2011
External packaging	4 G cardboard box
Intermediate packaging	20 drums of 1 liter
Max. net weight	10 kg
Official description for transportation	EXPLOSIVE MATERIAL NSA
Hazard category per UN	1.4 C
Transport by land, ADR and RID	UN 0509
Transport by sea IMDG	UN 0509
Transport by air OACI/IATA	UN 0509

15. REGULATORY INFORMATION

French regulations:

Decree No. 79-846 of 28 September 1979, decree of 26 September 1980 and inter-ministry bill of 20 April 2007 concerning general rules of hygiene and safety in pyrotechnic establishments. Council directive 93/15/EEC of 5 April 1993 on the harmonization of the provisions relating to the marketing and supervision of explosives for civil uses.

Labelling in accordance with EEC directives:

The product is classified and identified according to European community directives and respective national laws: 2004/73/EC; 2006/8/EC

Symbols :

E : Explosive
Xn : Harmfull

Risk phrases :

R2 : explosion risk by impact, friction, fire or other ignition sources
R11 : very flammable
R20/21/22 : harmfull by inhalation, by skin contact and by ingestion
R45(*) : can cause cancer
R62(*) : possibility of fertility impairing

(*) : applying fields are defined by the letter of the European Commission, reference 01572 on the 7/02/01 (E3/LP/cb D 2001 635056) – professionnal and industrial loading authorization (in annex).

Caution advices :

S33 : avoid electrostatic charge accumulation
S36/37/39 : wear suitable protection clothes, gloves and protection equipment for the eyes and the face
S41 : in case of fire and/or explosion, do not breathe the smokes
S45 : in case of an accident or an ill-health, consult immediately a doctor
S61 : avoid to reject in the environment

16. OTHERS INFORMATIONS / WARNING

This safety data sheet completes the technical utilisation notices but does not replace them. The information it contains is based on the current state of our knowledge relative to the product concerned, on the date given. They are given in good faith. The user's attention is, in addition, drawn to the possible risks which may be encountered if the product is used for purposes other than that for which it is intended.

It is their own responsibility:

- to develop the safety measures to cover all eventualities of the use of the product, in particular, those laid out in this safety data sheet,

- to pass on to all users and persons handling the product, the appropriate safety data and to make them aware of the risks mentioned in all the documentation concerning the use of the product.

This listing cannot be considered as exhaustive and does not release the recipient from the obligations which are imposed by the regulations relevant to their own activity.

The NOBELSPORT technical services are available to provide assistance to users, wherever possible and within their area of knowledge.

Pyrotechnic safety data on products

SAFETY TEST	TUBAL 2000	TUBAL 3000	TUBAL 5000	TUBAL 7000	TUBAL 8000
Sensitiveness to friction (Newton) Réf. : CSE 3.51/J1 SNPE n° 16	204.6 à 222.7 (1)	204.6 à 222.7 (2)	204.6 à 222.7 (2)	204.6 à 222.7 (2)	204.6 à 222.7 (2)
Sensitiveness to impact with impact ram BAM- (joule) Réf. : CSE 1045 SNPE n° 14	4.13 à 5.20 (1)	4.13 à 5.20 (2)	4.13 à 5.20 (2)	4.13 à 5.20 (2)	4.13 à 5.20 (2)
Deflagration in open air in a trough (speed in mm.sec) Réf. : CSE 3.21/L1 SNPE n° 20	22.4 à 25.9 (1)	22.4 à 25.9 (2)	22.4 à 25.9 (2)	22.4 à 25.9 (2)	22.4 à 25.9 (2)
Progressive heating Temp. of self-ignition - (°C) Réf. : CSE 3.02/F2 SNPE n° 47	179 (2) SNPE 1-79	179 (2) SNPE 1-79	179 (2) SNPE 1-79	179 (2) SNPE 1-79	179 (2) SNPE 1-79
Transition deflagration to detonation - Critical length (mm) Réf. : CSE 4.01/M4 SNPE n° 60	1200 (1)	1200 (2)	1200 (2)	1200 (2)	1200 (2)
Aptitude for detonation behind barrier - (number of cards) Réf. : CSE 3.75/P5 SNPE n° 27	< 190 (1)	< 190 (2)	< 190 (2)	< 190 (2)	< 190 (2)

(1) Results obtained during INERIS technical approval.
(2) Results obtained on similar product.

ASSOCIATION DES FABRICANTS EUROPEENS DE MUNITIONS DE SPORT
ASSOCIATION OF EUROPEAN MANUFACTURERS OF SPORTING AMMUNITION
AFFILIEE A LA FEDAS
AFEMS
AFFILIATED WITH FEDAS
AV. E. VAN NIEUWENHUYSE, 4 B-1160 BRUXELLES TEL. 32-2-6747211 FX 32-2-6767301 TX 10-62464

Mrs L. Parsanis
European Commission
DG Enterprise
Rue de la Loi, 200
1040 Brussels

Brussels, 27 November 2000
BJ/ch/419/001123.33

Re : DNT in propellant

Dear Mrs Parsanis,

We thank you for the opportunity you gave us on 21 November to explain how propellant containing Dinitrotoluene is distributed for the loading activity of sporting ammunition.

There are three distribution channels:

1. about 94% of the production goes to industrial manufacturers;
2. about 3% goes to professionals, e.g. gunsmiths who use it for loading small lots of ammunition, normally assisted by semiautomatic loading equipment;
3. about 3% goes to dealer who resell it to final consumer, e.g. hunters or sport shooters, who use it to load or reload their ammunition.

In none of the three above mentioned cases does the propellant get in physical contact with human skin.

On the base of the information and documentation provided by CEFIC/AFEMS, we understand you agree that channels 1 and 2 are excluded by the scope of the Parliament and Council Directive amending Dir. 76/769 for substances classified as carcinogenic, mutagenic or toxic to reproduction.

We understand also that your concern is only related to route 3 as per above and the Commission is not anyway prepared to support a derogation for the use of DNT in propellant.

As discussed during our 21st November meeting, we would be grateful to receive confirmation that propellant, containing DNT, when sold to industry or to professionals (e.g. gunsmith), channel 1 and 2, does not falls under the scope of the foressid Directive.

We look forward to hearing from you in this matter.

Kind regards,

Annexe

EUROPEAN COMMISSION
ENTERPRISE DIRECTORATE-GENERAL

Environmental aspects of enterprise policy, resource-based and specific industries
Chemicals

01572 07.02.2001

Brussels,
E3/LP/cb D(2001) [illegible]

Subject: DNT in propellants

Dear Mr Jeanny,

I refer to our meeting on 21[st] November 2000 and to your letter of 27[th] November 2000 concerning the use of dinitrotoluene, and the draft proposal for a 23[rd] amendment to Directive 76/769 on substances newly classified as carcinogens, mutagens or toxic to reproduction – category 1 or 2 (CMR).

The principle to ban the use by the general public of substances classified as CMR category 1 or 2 was first introduced by Directive 94/60/EC, 14[th] amendment to Directive 76/769. The objectives were to preserve the Internal Market and to protect the health of consumers. The reasoning behind the ban was that consumers, unlike professional and industrial users, do not have the means to control the risks of handling such hazardous substances.

In the specific case of dinitrotoluene in propellants for ammunition, the placing on the market for industrial or professional uses would not be covered by the proposed Directive. However, any placing on the market for use by the final consumer in reloading his own ammunition would be banned under the Directive.

Yours sincerely,

Lens Persolius