



**For the attention of the European gunsmith industry**

Paris, June 1<sup>st</sup>, 2026,

O/Ref: Letter 26051

Subject: D105447/6 – [14 April 2026 - Draft Commission Regulation regarding the use of lead gunshot at clay target sport shooting](#)

Dear Sir/Madam,

After six-year negotiations with the European Chemicals Agency (ECHA) and the European Commission (EC), the EC's draft regulation to the REACH Committee includes three very important points that FITASC and ESC fully support:

1. A derogation authorizing the use of cartridges loaded with lead pellets at clay target sport shooting;
2. We have ensured that this derogation is no longer time-limited;
3. Recognition of the effectiveness of pH control in lead fallout areas to prevent the risk of lead migration

However, in [the latest draft regulation of the European Commission of 14<sup>th</sup> April 2026](#), there are still **two remaining obligations on which we totally disagree as they are neither scientifically based nor financially sustainable for shooting ranges:**

- a. **Implementing at least two specific lead-containment measures (walls, berms or banks, nets or shot curtains, and surface covering),**

*Reasons for our disagreement: Implementing “walls, berms or banks, nets or shot curtains and surface covering” depends on the discipline practiced (possible with fixed trajectories such as Olympic Trap and Fosse Universelle-UT), on the ground topography necessary for each of the disciplines and on the administrative authorizations.*

*Furthermore, we are very concerned about the consequences of covering several hectares with plastic sheeting. We are therefore working with our scientists to investigate the impact of such covering on the soil and subsoil, as well as the issues associated with plastic degradation.*

- b. **and recovering spent lead shot at least once every three years.**

*Reasons for our disagreement: The chemical mobility of lead blocked thanks to the soil pH neutrality management, outdoor sports shooting ranges should not be required to collect lead shot fallout at least once every three years (especially as they won't have the financial means to do so), but only when the quantity of lead shot falls is sufficient to fund its recovery.*

To preserve economically & scientifically justified solutions for our shooting ranges, **we maintain our proposals on the two following points:**

- a. **Only ONE site-specific solution of lead-containment measures (and not two), including the pH management in the list of solution of lead-containment measures;**



- b. Outdoor sports shooting ranges should be required to recover lead shot fallout only when the its quantity is sufficient to fund its recovery.

In the six years we have been working on this issue, the majority of the industry has always seemed to have a single demand: a moratorium on the ban on the use of lead in cartridges.

But what would happen once a 7- or 10-year moratorium expires?

More specifically regarding clay target shooting, what will happen in a few years' time if the Commission's regulation is adopted in its current form by REACH and then by the European Parliament?

The two lead management measures outlined above, which lack scientific justification and are financially unsustainable for clubs, will have dramatic consequences for our sport. Indeed, many small and medium-sized clubs will be unable to implement all the lead management measures imposed by the regulation and will have to use only steel-shot cartridges.

**However, steel will never be able to replace lead in clay target shooting, primarily for ballistic reasons<sup>1</sup>.**

The report by the ballistics expert (BPK) dated November 2022, commissioned by ECHA, confirmed the FITASC/ESC studies by concluding that, from a ballistic point of view, a 3.0 to 3.5 mm (5-3) steel pellet would be suitable to replace a 2.4 mm (7½) lead pellet at a shooting distance of between 30m and 50m.

A 3.0–3.5 mm (5-3) steel-shot cartridge has an average pressure of 700 bar at 20°C, whereas the 2.4 mm (7½) lead-shot cartridges currently available on the market have an average pressure of between 500 and 550 bar at 20°C.

We know that for every 10°C rise in ambient temperature, the pressure in a cartridge increases by 30%, so:

- A lead-shot cartridge at 550 bar at 20°C sees its pressure rise to 715 bar at 30°C and to 930 bar at 40°C;
- A steel-shot cartridge at 700 bar at 20°C sees its pressure rise to 910 bar at 30°C and up to 1,180 bar at 40°C;

We would therefore like to draw the industry's attention to the forthcoming implications for clay target shooting:

- The technical pressure specifications of steel-shot cartridges mean that they will not be suitable for use by junior or women's category shooters;
- Shooters in the senior, veteran and master categories, who make up the vast majority of clay target shooting participants, will, in part, no longer be able to take part;

This would cause the market to plummet by around 50% to 60%.

Another consequence of the higher pressure required in steel-shot cartridges is that they are noisier than lead-shot cartridges. Consequently, the use of steel-shot cartridges would result in noise levels exceeding the permitted limits for the neighborhood.

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<sup>1</sup> See pages 4 à 12 : ECHA's ballistics expert (BPK) study – Nov 2022 confirmed FITASC/ESC studies



Countries with low population densities often have few sport shooters. Conversely, the most significant countries for sport shooting are those with high population densities. Consequently, any increase in noise levels from sports facilities, particularly due to the use of steel-shot cartridges, poses an immediate risk of tension with local residents and a very serious risk of closure by court order or administrative decision. In France, for example, we estimate that the risk of closure due to noise pollution could affect 50% of clubs.

This is what lies ahead if the Commission's regulation is adopted in its current form by REACH and then by the European Parliament.

For the industry, it is not too late to change your position. We ask for your full support for our proposed amendments to the EC regulation (see above) in the REACH Committee and subsequently in the European Parliament, so that our efforts may be focused on rejecting scientifically unjustified standards that will lead to the demise of our sport, and consequently of the industry.

If you support our position in defending these last two crucial points, please help us in our action defending the use of lead by sending us a letter on letterhead of your company with the following text:

*Yes, we support FITASC position aiming at preserving economically & scientifically justified solutions for our shooting ranges and we ask that the two following points be considered in the European Commission regulation:*

- a. Implementing at least one specific lead-containment measures and including the pH management in the list (walls, berms or banks, nets or shot curtains, surface covering, pH management on gunshot-impact areas);*
- b. and recovering spent lead shot only when the quantity of lead shot falls is sufficient to fund its recovery.*

By helping to safeguard our sport, you are helping to safeguard your industry.

We look forward to your support.

Yours faithfully.

Alexander RATNER  
ESC President

Jean-François PALINKAS  
FITASC President



# 1. ECHA initial propositions have been proven wrong

August 8th, 2023

FITASC/ESC conclusions were that:

A 3.0 mm (5) steel pellet with muzzle velocity of 390-400 m/s is equivalent to

a 2.4 mm (7½) lead pellets with muzzle velocity of 400 m/s

A 2.6 mm (~7) steel pellets with muzzle velocity of 390 m/s is not equivalent to

a 2.4 mm (7½) lead pellets with muzzle velocity of 400 m/s



## 2. ECHA's ballistics expert (BPK) study



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August 8th, 2023

- In a Nov '22 document<sup>5</sup>, ECHA included the results of the BPK study<sup>6</sup>
- The BPK study concludes that:
  - A 2.7 mm (6) steel pellet **cannot replace** a 2.4 mm (7½) lead pellet from a ballistic point of view (paragraph 7.3)
  - A 3.0-3.5 mm (5-3) steel pellet **would be suitable to replace** a 2.4 mm (7½) lead pellet from a ballistic point of view (paragraphs 7.3 and 7.4)
- These conclusions are quite similar to FITASC/ESC's
- FITASC/ESC conducted comparative calculations which show the same results than the BPK study (next slides)

<sup>5</sup> ECHA/RAC/RES-O-0000007115-80-01/F dated Nov 17, 2022

<sup>4</sup> "Ballistic consequences of the change from lead to steel shot in shotgun sports shooting against clay targets", dated Sept 26, 2022



## 2. ECHA's ballistics expert (BPK) study

August 8th, 2023

- The following 3 slides show for 3 different distances (30 m, 40 m and 50 m):
  - A comparison between BPK results and FITASC/ESC results
  - A comparison in terms of energy and wind deflection between:
    - 2.60-3.50 mm (~7-3) steel pelletsAnd
    - 2.41 mm (7½) lead pellet on the other hand(in both cases shot with muzzle velocity of 400 m/s)



## 2. ECHA's ballistics expert (BPK) study

August 8th, 2023

Ballistics	Lead shot		Steel shot				
	2.41 mm	2.41 mm	2.60 mm	2.70 mm	3.00 mm	3.25 mm	3.50 mm
Muzzle velocity (m/s)	420	400	400	400	400	400	400
Cartridge load (g)	24	24		24	24	24	24
BPK - Pellet mass (g)	0,0810	0,0810		0,0804	0,1100	0,1400	0,1750
FITASC - Pellet mass (g)	0,0832	0,0832	0,0709	0,0794	0,1089	0,1384	0,1729
<b>Distance 30 m</b>							
BPK - Velocity of the first pellet (m/s)	212	208		177	191	202	211
BPK - Mean velocity of cloud (m/s)	201	196		167	180	190	198
BPK - Velocity at the end of the cloud (m/s)	190	184		156	169	179	185
FITASC - Velocity (m/s)	204	201	166	172	183	191	198
BPK - Energy of the first pellet (J)	1,82	1,75		1,26	2,01	2,86	3,90
BPK - Mean pellet energy (J)	1,64	1,56		1,12	1,79	2,55	3,45
BPK - Energy at the end of the cloud (J)	1,46	1,37		0,98	1,57	2,24	2,99
FITASC - Energy (J)	1,73	1,68	0,98	1,17	1,81	2,51	3,38
BPK - Flight time of the cloud center (s)	0,110	0,113		0,125	0,119	0,115	0,112
FITASC - Flight time (s)	0,112	0,114	0,129	0,126	0,121	0,118	0,115
BPK - Wind deflection (3 m/s crosswind) (m)	0,11	0,11		0,15	0,13	0,12	0,11
FITASC - Wind deflection (m)	0,12	0,12	0,16	0,15	0,14	0,13	0,12

**dark green cells** Steel pellet energy is in the +/-5% range of lead's baseline energy

**yellow** Steel pellet wind deflection is in the +/-5% range of lead's baseline deflection

**light green cells** Steel pellet energy is higher than lead's baseline energy +5%

**orange** Steel pellet wind deflection is higher than lead's baseline deflection +5%



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FITASC - Pellet mass (g)	0,0832	0,0832	0,0709	0,0794	0,1089	0,1384	0,1729
<b>Distance 40 m</b>							
BPK - Velocity of the first pellet (m/s)	173	170		138	152	163	173
BPK - Mean velocity of cloud (m/s)	164	160		129	143	159	161
BPK - Velocity at the end of the cloud (m/s)	155	150		121	133	143	150
FITASC - Velocity (m/s)	173	171	134	139	151	159	167
BPK - Energy of the first pellet (J)	1,21	1,17		0,77	1,27	1,86	2,62
BPK - Mean pellet energy (J)	1,09	1,04		0,68	1,12	1,65	2,30
BPK - Energy at the end of the cloud (J)	0,97	0,91		0,59	0,97	1,43	1,97
FITASC - Energy (J)	1,24	1,21	0,63	0,77	1,24	1,76	2,42
BPK - Flight time of the cloud center (s)	0,166	0,171		0,194	0,183	0,175	0,170
FITASC - Flight time (s)	0,165	0,168	0,196	0,191	0,181	0,175	0,170
BPK - Wind deflection (3 m/s crosswind) (m)	0,21	0,21		0,28	0,25	0,22	0,20
FITASC - Wind deflection (m)	0,21	0,20	0,28	0,27	0,24	0,23	0,21

**dark green cells** Steel pellet energy is in the +/-5% range of lead's baseline energy

**yellow** Steel pellet wind deflection is in the +/-5% range of lead's baseline deflection

**light green cells** Steel pellet energy is higher than lead's baseline energy +5%

**orange** Steel pellet wind deflection is higher than lead's baseline deflection +5%



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August 8th, 2023

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Cartridge load (g)	24	24		24	24	24	24
BPK - Pellet mass (g)	0,0810	0,0810		0,0804	0,1100	0,1400	0,1750
FITASC - Pellet mass (g)	0,0832	0,0832	0,0709	0,0794	0,1089	0,1384	0,1729
<b>Distance 50 m</b>							
BPK - Velocity of the first pellet (m/s)	141	140		107	122	133	143
BPK - Mean velocity of cloud (m/s)	140	131		100	114	131	140
BPK - Velocity at the end of the cloud (m/s)	126	122		93	105	116	123
FITASC - Velocity (m/s)	147	145	108	113	125	134	142
BPK - Energy of the first pellet (J)	0,81	0,79		0,46	0,82	1,24	1,79
BPK - Mean pellet energy (J)	0,73	0,70		0,41	0,72	1,09	1,56
BPK - Energy at the end of the cloud (J)	0,64	0,60		0,35	0,61	0,94	1,32
FITASC - Energy (J)	0,90	0,88	0,42	0,51	0,85	1,24	1,74
BPK - Flight time of the cloud center (s)	0,235	0,241		0,284	0,256	0,249	0,239
FITASC - Flight time (s)	0,228	0,232	0,279	0,270	0,254	0,244	0,235
BPK - Wind deflection (3 m/s crosswind) (m)	0,34	0,34		0,47	0,41	0,37	0,34
FITASC - Wind deflection (m)	0,33	0,32	0,45	0,44	0,39	0,36	0,33

**dark green cells** Steel pellet energy is in the +/-5% range of lead's baseline energy

**yellow** Steel pellet wind deflection is in the +/-5% range of lead's baseline deflection

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# Conclusions of the BPK vs. FITASC/ESC calculations

- Both studies give a quite similar result
- With a muzzle velocity of 400 m/s, a 3.00 mm (5) steel pellet is the best equivalent to a 2.41 mm (7½) lead pellet
- With a muzzle velocity of 400 m/s, 3.25 mm (4) and 3.50 mm (3) steel pellets provide more energy than a 2.41 mm (7½) lead pellet



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# Additional concerns raised by the BPK study

- Even with steel pellets (equivalent in terms of energy) there are 15% less pellets hitting the clay target than with lead pellets

Ballistics	Lead shot		Steel shot			
	2.41 mm	2.41 mm	2.70 mm	3.00 mm	3.25 mm	3.50 mm
Muzzle velocity (m/s)	420	400	400	400	400	400
Cartridge load (g)	24	24	24	24	24	24
BPK - Pellet mass (g)	0,0810	0,0810	0,0804	0,1100	0,1400	0,1750
Number of pellets (-)	296	296	299	218	171	137
<b>Distance 30 m</b>						
Number of pellets on clay target (-)	12,05	12,60	12,11	10,09	9,21	10,06
<b>Distance 40 m</b>						
Number of pellets on clay target (-)	7,94	8,42	7,55	7,75	6,42	6,29
<b>Distance 50 m</b>						
Number of pellets on clay target (-)	6,41	5,79	5,95	5,06	4,98	5,04