

Yves Guengant talks about regulations



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IMEMG: What are the reference documents defining Insensitive Munitions?

YVES GUENGANT: Insensitive Munitions (I.M) are defined in NATO STANAG 4439, the policy document that covers the introduction and assessment of IM. Its supporting document is AOP 39.

IMEMG: Are Insensitive Munitions only defined by NATO?

YG: Actually, no. The United Nations' recommendations on the transport and storage of dangerous goods, which covers the civilian field, also address I.M.

IMEMG: Could you be more specific about the organisations responsible for establishing regulations concerning the transport and storage of dangerous goods?

YG: There are two. The United Nations as well as NATO specify recommendations to be implemented in each country. The UN's Orange Book, which is actually orange, is the Manual of Tests and Criteria that defines the different classes of dangerous goods. In this document, "Class 1" includes everything that is liable to explode. It is subdivided into six Hazard Divisions (HD). UN recommendations are adapted by the relevant competent bodies for each transport category: i.e. road, rail, inland waterways, sea, and air. In Europe, road transport regulations are governed by the European

Commission for the 27 member countries.

Air transport of dangerous goods is ruled by the ICAO (International Civil Aviation Organisation) and, maritime transport by the IMDG (International Maritime Dangerous Goods Code). Regarding storage, it is up to national civilian authorities to decide the applicable regulation in each country (safety distances, quantities allowed...).

However, none of these regulations are directly applicable to the military which have their own model established by NATO in the Allied Ammunition Storage and Transport Publication (AASTP).

IMEMG: What about the transport and storage of Insensitive Munitions (IM) in that case?

YG: Insensitive Munitions are ruled by both NATO standard HD1.2.3 and UN standard HD1.6, depending on whether a ship or a depot is civil or military and is used during peacetime or wartime.

IMEMG: What are the benefits of these two classifications?

YG: As a key improvement to the HD1.1 usual rule, both regulations allow to safely transport or store four to six times more explosive items in the same space. However, it is somehow difficult to materialize these advantages because of the dual NATO/UN regulation system [See page 3].

« Hazard Divisions? »

HD1.1 concerns ordinary explosives **and munitions generating mass explosion**; **HD1.2** refers to anything that generates fragments without mass explosion; **HD1.3** addresses anything which burns making very strong flames; **HD1.4** for articles generating moderate danger i.e. fireworks, 1.5 for insensitive explosives mainly for civilian use, 1.6 for insensitive munitions.

In order to qualify as an Insensitive Munition under the UN rules, there are several tests on both energetic materials and on munitions which need to be passed, e.g. Fast Heating and Bullet attack which are very similar to the NATO tests.

More information on next page

The last version of the IM card

The purple October 2010 IM card was widely distributed at the IMEMTS in Munich. But, in the meantime, France has just issued its IM/MURAT domestic policy. Indeed, the "INSTRUCTION MINISTERIELLE N°211893" prepared by DGA /IPE and signed by the French Ministry of Defence stands as the implementing document of STANAG 4439 (signed and ratified by France). It replaces the Doctrine MURAT released in 1993. From the former document, we could note that MURAT Labels are still in force. There are slight changes to be coherent with NATO SSD 1.2.3 (for Label 2*) and UN HD 1.6 (for

Label 3*). It is mandatory that new munitions abide by MURAT requirements. The IM signature of in-service munitions

has to be determined. New IM card available early January.



French IM Policy release

REPRESENTATION OF THE IM REQUIREMENTS					NATO	UK	GERMANY	ITALY	FRANCE	USA
					STANAG 4439					
Type of Response (defined in AOP39)					January 2012					
	English	Français	Deutsch	Italiano	DGA-AT M Guidelines 2000		INSTRUCTION N° 211893 July 21 st , 2011		MIL-STD-2000	
VI	No Reaction	Non Réaction	Keine Reaktion	Nessuna Reazione	ΦΦ	ΦΦΦ	*	**	***	****
V	Burn	Combustion	Abbrand	Combustione	V	V	IV*	V*	V*	V
IV	Deflagration	Explosion	Abbrand	Deflagrazione	V	V	III	V	V	V
III	Explosion	Déflagration	Explosion	Explosione	V	V	III	V	V	V
II	Partial detonation	Détonation partielle	Teilweise Detonation	Detonazione parziale	V	V	III	V	V	V
I	Detonation	Détonation	Vollständige Detonation	Detonazione	III	III	III	III	III	III
Munition Test Procedures										
FH	4240	External Fire (Fast Heating)	Incendie externe	Schnelle Aufheizung	Incendio rapido					
SH	4382	Slow Heating	Echauffement lent	Langsame Aufheizung	Incendio lento					
BI	4241	Bullet Impact	Impact de balle	Projektilbeschuss	Impatto con proiettili di piccolo calibro					
SR	4396	Sympathetic Reaction	Réaction par influence	Sympathetische Reaktion	Reazione per influenza					
FI	4496	Fragment Impact	Impact of jet de charge creuse	Spillterbeschuss	Impatto con scheggia					
SC-JI	4526	Shaped Charge Jet Impact	Impact de charge creuse	Hohlladungsbeschuss	Impatto con dardo di carica cava					

as (4) All EM compliant with UN Orange Book Test Series 7 the Assessment and Development of Insensitive Munitions proved munition Threat Hazard Analysis (THA) configuration of a munition during its life cycle.