01 July 2009 (Edition 2010/3)

THE THREAT FROM EXPLOSIVE EVENTS IN AMMUNITION STORAGE AREAS

It is now acknowledged that in almost all post-conflict environments, and in many developing countries, a physical risk exists to communities from the presence of abandoned, damaged or inappropriately stored and managed stockpiles of ammunition and explosives.

News of major ammunition depot explosions makes the headlines several times in any single year, but many minor events go unreported. All of these events though have a devastating impact on local communities. Large number of casualties, widespread destruction of infrastructure, and the disruption of the livelihood of entire communities often result. In addition to the immediate human suffering, such explosions can have major negative effects on the environment and, in States with limited means to finance the technically challenging clean-up costs, local populations, especially children, are all too often exposed to the risk of injury or death due to the unexploded ordnance[1] that tends to litter large areas for extended periods of time after the initial undesirable ammunition explosion.

The matrix at Annex A contains details of known or suspected explosive events within ammunition storage areas over the last ten years. The data has been obtained from a range of open sources,[2] and is therefore only as accurate as those relevant sources; it is certainly an under-estimation of the real impact.

Since the last reportmore open source data from George Zahacewsky has been added to the historical records, for which he is thanked. National authorities should be contacted for further definitive information.[3] The matrix is only intended to illustrate the very real risks and hazards that stockpiled ammunition can present to civilian communities.[4] Since 01 January 2006 incidents during the demilitarization of surplus ammunition have also been included in this summary. Incidents during use, transportation, EOD operations[5] or manufacture[6] are not included. Similarly the many explosive incidents involving the manufacture and storage of fireworks are also not included.

Some good news is that the international community is at last beginning to accept that the problems arising from the accumulation of conventional ammunition stockpiles deserve greater international interest, developmental commitment and political will. This is demonstrated by a Group of Government Experts (GGE) Report[7] in pursuance of a Resolution[8] of the UN General Assembly that recommends; 1) the education and training of national stockpile

[1] Ammunition ejected from depot explosions is often subjected to the forces necessary to arm it, and hence UXO occurs as if dropped or fired as intended.

[2] NATO MSIAC, UK EIDAS, Media, Internet, GICHD Explosive Remnants of War (ERW) - Undesired Explosive Events in Ammunition Storage Areas, ISBN 2-88487-006-7, Geneva, November 2002 and SEESAC (who maintained the list until October 2007). Thanks also to George Zahacewsky of Dyncorp Limited and William Hunt of Threat Resolution Limited for alerting us of other incidents.

[3] There is absolutely no intention to allocate or imply blame for any of the explosive events referred to in this paper; indeed the States involved should be congratulated on their transparency in allowing lessons to be learned from these unfortunate events. The possible cause allocated is that mentioned in the source; again this should be treated with caution as only a full investigation by appropriate specialists can technically confirm the cause of the event.

[4] Further detailed information can be found in Targeting Ammunition, Chapters 8 and 9, Small Arms Survey, (ISBN 2-8288-0072-5), Geneva, June 2006.

[5] Unless directly related to an ammunition depot explosion.

[6] In some cases, due to lack of information, it is not clear whether the explosion was in a storage or manufacturing location. The incident has been included but commented on accordingly.

[7] UNGA Report A/63/182 dated 28 July 2008.

[8] UNGA Resolution 61/72 of 03 January 2007.

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management staff; 2) the development of a set of technical guidelines in order to assist States in improving their national stockpile management capacities; and 3) the improvement of knowledge resource management on ammunition technical issues within the United Nations system to ensure that States have ready access to appropriate technical expertise and guidance for the safe and secure storage of ammunition and the disposal of surplus stockpiles. Resolution 63/61 of the UN General Assembly (02 December 2008) welcomes the report and strongly encourages States to implement its recommendations. The very welcome diplomatic engagement of Germany and France on this issue has at last raised the international profile of this threat to an appropriate level, and work on the development of international ammunition guidelines (UN ATG) commenced on 28 September 2009.

The following matrix summarises the statistics to date, but it must be emphasised that these are only the known incidents, and the accuracy of data is only as good as that in the media or source reports:

YEAR	INCIDENTS	FATALITIES (KNOWN)	INJURIES (KNOWN)	REMARKS
1995 - 2000	37	412	1011	▪ Limited data availability. ▪ Two incidents in Brazil (1995) and Congo (2000) account for 60% of the fatalities.
2001	17	80	243	
2002	17	1587	559	▪ Lagos, Nigeria incident resulted in 1500+ fatalities.
2003	24	167	357	▪ Iraq incidents impact on 2003 statistics.
2004	16	1088	1090	▪ Unconfirmed North Korea incident accounts for 1000 of these fatalities. ▪ Separate confirmed North Korea incident accounts for 1000 of the injuries.
2005	22	159	529	
2006	20	17	128	
2007	27	189+	620+	▪ One incident in Mozambique accounts for over 70% of fatalities.
2008	22	41	337+	▪ Gerdec, Albania accounts for a large proportion of these casualties.
2009	21	47	263+	▪
2010	8	27	64	▪
TOTALS	**231**	**4,809+**	**5,811+**	▪ **An underestimate!**
MEAN (2001 – 2009)	**20+**	**375+**	**458+**	▪

To put these casualties in perspective with landmine and UXO global casualties, comparison with the Landmine Monitor 2000 - 2007 data[9] provides an indication of this developing threat. The table below summarises the Landmine Monitor data for the last 8 years of available records (2000 – 2007):

YEAR[10]	FATALITIES	INJURIES	REMARKS
2007	1,401	3,939	▪ LM 2008

[9] Landmine Monitor 2008.
http://www.icbl.org/lm/2008/es/landmine_casualties_and_survivor_assistance.html#Landmine/ERW/IED_Casualties_in_2007

[10] The Landmine Monitor reference is plus one year. E.g. casualties reported for 2001 are sourced from the 2002 Landmine Monitor.

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YEAR[10]	FATALITIES	INJURIES	REMARKS
2006	1,367	4,296	▪ LM 2007
2005	1,743	5,348	▪ LM 2006
2004[11]	6521		▪ LM 2005
	1,630	*4,891*	▪
2003	8,067		▪ LM 2004
	2,017	*6,050*	▪
2002	11,700		▪ LM 2003
	2,925	*8,775*	▪
2001	7.987		▪ LM 2002
	1,997	*5,990*	▪
2000	8,000		▪ LM 2001
	2,000	*6,000*	▪
TOTALS	*15,080*	*45,289*	▪ Based on a 25%/75% split of fatality/injury.
MEAN	*1,885*	*5,661*	▪

This suggests, although the statistics can be misleading and may require further ratification, that the trend is for **fatalities** from undesirable ammunition **depot explosions globally to occur at a rate of 21% of those from landmines and UXO**, whereas **casualties are at only 7% of the landmine and UXO casualty rate**. This high fatality comparative percentage illustrates what just an impact the undesirable explosion within an ammuntion storage area can have on local community safety and development.

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[11] The 2005 Landmine Monitor Report and previous editions only reported casualties, and did not distinguish between fatalities and injuries in the Executive Summary of the Report. The figures below in italic estimate the number of fatalities versus injuries in the overall casualty in the ratio of 1 fatality to 3 injuries based on the 2005 – 2007 ratio.

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Annex A – Summary of Undesirable Explosions in Ammunition Depots

SER	DATE	COUNTRY	LOCATION	CASUALTIES		REMARKS / POSSIBLE CAUSE	SOURCE
				FATAL	INJURED		
1995 – 1997 (24 Incidents)							
1	27 May 95	Yemen	Aden	0	0	Not Known	Middle East International, 09 June 1995
2	16 Jul 95	Brazil	Boquiero	100	NK	Not Known	GZ Source
3	03 Nov 95	Argentina		5	200		Xinhua News Agency, 03 November 2005
4	15 Feb 96	Afghanistan	Kabul	60	125	Not Known	GZ Source
5	25 Jun 96	Saudi Arabia	Phakran	19	0	Not Known	GZ Source
6	Mar 97	Albania	15 Locations	56	59	Human Error and Security	NATO ASDIT, October 1998
7	19 Mar 97	Afghanistan	Jalalabad	30	200	Not Known	GZ Source
8	04 Jul 97	Ecuador	Quito	3	187	Not Known	GZ Source
9	05 Jul 97	Turkey	Kirkkale	2	10	Not Known	GZ Source
10	07 Nov 97	Russia	Vladivostok	?	?	Not Known	http://news.bbc.co.uk/1/hi/world/monitoring/31161.stm
1998 (6 Incidents)							
11	21 Feb 98	Russia	Volgograd	0	0	Not Known	**GICHD**, Explosive Remnants of War (ERW), Undesired Explosive Events in Ammunition Storage Areas, ISBN 2-88487-006-7, Geneva, November 2002.
12	21 Feb 98	Russia	Engels	0	0	Not Known	Ibid
13	02 Jun 98	Iran	Saltanat-Abad	?	?	Sabotage Security	http://www.iran-e-azad.org/english/pmoi/980603.html
14	19 Jun 98	Russia	Urals	14	17	Lightning	Ibid
15	17 Jul 98	Sudan	Khartoum	?	?	Not Known	http://news.bbc.co.uk/1/hi/world/africa/134969.stm

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				FATAL	INJURED		
16	01 Dec 98	Philippines	Tarlac City	0	0	Fire	http://www.newsflash.org/199812/ht/ht000602.htm
1999 (2 Incidents)							
17	29 Aug 99	Cambodia	Ream	0	0	Fire	Ibid
18	09 Oct 99	Afghanistan	Mazar-e-Sharif	7	12	Handling	**GICHD**
2000 (5 Incidents)							
19	15 Apr 00	Congo	Kinshaha	101	216	Handling	http://news.bbc.co.uk/1/hi/world/africa/716625.stm
20	28 Apr 00	India	Bharatpur	2	10	Fire	**GICHD** http://news.bbc.co.uk/1/hi/world/south_asia/733374.stm
21	10 May 00	El Salvador	San Salvador	0	65	Negligence	*Agence France-Presse* (San Salvador), 10 May 2000
22	26 May 00	Afghanistan	Kabul	0	0	Not Known	http://news.bbc.co.uk/1/hi/world/south_asia/764883.stm
23	25 Oct 00	Iran	Mashad	8	10	Not Known	http://news.bbc.co.uk/1/hi/world/middle_east/990602.stm
2001 (17 Incidents)							
24	? Mar 01	Thailand	Bangkok	0	0	High Temperature	**GZ**
25	03 Mar 01	Guinea	Conakry	10	NK	Not Known	**GICHD**
26	29 Apr 01	India	Panthankot	0	0	Spontaneous combustion (?)	http://news.bbc.co.uk/1/hi/world/south_asia/1304432.stm
27	29 Apr 01	USA	Arkansas	0	0	Not Known	**GICHD**
28	20 May 01	Yemen	Al-Bayda	14	50	Not Known	Ibid
29	24 May 01	India	Mirdhwal / Suratgarh	1	5	Fire	http://www.rediff.com/news/2001/may/24fire.htm http://news.bbc.co.uk/1/hi/world/south_asia/1349144.stm
30	08 Jun 01	Vietnam	Hoa They	0	4	Not Known	**GICHD**

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				FATAL	INJURED		
31	08 Jun 01	Russia	Ramenskoye	0	0	Electrical Fault	NATO MSIAC
32	23 Jun 01	Russia	Nerchinsk	5	1	Lightning	**GICHD**
33	11 Jul 01	Thailand	Pakchong	2	70	Handling	Ibid
34	11 Jul 01	Afghanistan	Darulaman	0	3	Not Known	http://news.bbc.co.uk/1/hi/world/south_asia/1433925.stm
35	21 Jul 01	Russia	Buryatia, Siberia	3	17	Fire / Lightning Strike	**GICHD**
36	08 Aug 01	Kazakstan	Balkhash, Almaty	0	0	Spontaneous Combustion	http://news.bbc.co.uk/1/hi/world/monitoring/media_reports/1483215.stm http://www.washingtonpost.com/wp-srv/aponline/20010808/aponline211303_000.htm
37	16 Aug 01	India	Tanil Nadu	25	3	Not Known	**GICHD**
38	06 Sep 01	Kazakhstan	Almaty	0	0	Fire	http://www.cornellcaspian.com/analyst/NB.htm
39	27 Sep 01	Indonesia	Java	1	0	Not Known	NATO MSIAC
40	25 Oct 01	Thailand	Korat (Pak Chong)	19	90	Handling / Propellant Auto-Ignition	http://www.cornellcaspian.com/analyst/NB.htm NATO MSIAC
2002 (17 Incidents)							
41	05 Jan 02	Sierra Leone	Tongo	6	12	Handling	http://www.sierra-leone.org/slnews0102.html
42	11 Jan 02	India	Bikaner	2	12	Electrical Spark	NATO MSIAC
43	27 Jan 02	Nigeria	Lagos	1500+	NK	Fire	**GICHD**
44	28 Jan 02	Thailand	Pakchong	?	?	Unstable ammunition awaiting destruction	http://news.bbc.co.uk/1/hi/world/asia-pacific/1788647.stm
45	07 Mar 02	Afghanistan	Kandahar	0	0	Fire	NATO MSIAC
46	08 Mar 02	Sri Lanka	Kankesanturai	0	0	Ammunition Stability	**GICHD**
47	28 Mar 02	Thailand	Aranyaprathet	0	5	Propellant Auto-Ignition	NATO MSIAC
48	05 May 02	Guinea	Conakry	?	?	Not Known	http://news.bbc.co.uk/1/hi/world/africa/1969572.stm
49	27 Jun 02	Afghanistan	Spin Boldak	32	70	Sabotage?	http://news.bbc.co.uk/1/hi/world/south_asia/2073985.stm
50	08 Jul 02	Afghanistan	Spin Boldak	0	2	Not Known	NATO MSIAC

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				FATAL	INJURED		
51	10 Jul 02	Russia	Buryatia	3	11	Fire	NATO MSIAC
52	05 Aug 02	Afghanistan	Spin Boldak	0	2	Not Known	GZ
53	09 Aug 02	Afghanistan	Jalalabad	26	90	High Temperature (?)	http://www.reliefweb.int/rw/rwb.nsf/0/c417e877d1b9e7de85256c1700749b91?OpenDocument NATO MSIAC
54	16 Oct 02	Russia	Vladivostok	0	26	Demolitions	Vladivostok News, 19 November 19 2002, http://vn.vladnews.ru/Arch/2002/ISS338/News/upd19_2.HTM
55	30 Oct 02	Mozambique	Beira	6 [12]	50	Lightning	http://www.ifrc.org/docs/appeals/annual04/011504.pdf
56	12 Nov 02	Nicaragua	Managua	5	5	Handling	NATO MSIAC
57	21 Nov 02	Ecuador	Riobamba	7	274	Handling	Khaleej Times Online, http://www.khaleejtimes.co.ae/ktarchive/211102/theworld.htm NATO MSIAC
2003 (24 Incidents)							
58	?? 03	Beira	Mozambique	0	0	Not Known	GZ
59	23 Jan 03	Peru	Tumbes	22	181	Not Known	AP, 23 January 2003. NATO MSIAC
60	15 Mar 03	Afghanistan	Tokhichi	1	3	Fire	http://en.wikipedia.org/wiki/Afghanistan_timeline_March_1-15,_2003
61	23 Mar 03	Ecuador	Guayaquil	0	12	Not Known	NATO MSIAC
62	30 Mar 03	Ecuador	Guayaquil	0	0	Not Known	Dyncorp
63	25 Apr 03	Colombia	Yopal	0	0	Fire	AP Worldstream , 25 April 2003
64	26 Apr 03	Iraq	Zafaranyah	10	51	Fire Sabotage	http://news.bbc.co.uk/1/hi/world/middle_east/2977711.stm
65	05 May 03	Vietnam	Thay Nguyen	2	31	Not Known	Ibid NATO MSIAC
66	22 May 03	Iraq	Mosul	1	1	Fire	GZ
67	? Jun 03	Russia	Mari El	5	0	Not Known	http://www.mosnews.com/news/2005/05/17/kronstadtfire.shtml

[12] Additionally 3 x fatalities from a UXO projected 150 metres from the depot on 23 Nov 06.

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				FATAL	INJURED		
68	01 Jun 03	India	Jodphur	0	0	Fire	NATO MSIAC
69	09 Jun 03	Iraq	Karbala	0	0	Not Known	News Release 03-06-34, HQ US CENTCOM, 09 June 2003, http://www.globalsecurity.org/wmd/library/news/iraq/2003/06/iraq-030609-centcom04.htm
70	09 Jun 03	Iraq	Ad Diwaniyah	3	2	Not Known	News Release 03-06-35, HQ US CENTCOM, 09 June 2003, http://www.globalsecurity.org/wmd/library/news/iraq/2003/06/iraq-030610-centcom01.htm
71	22 Jun 03	Iraq	Najaf	40	0	Handling (?)	NATO MSIAC
72	28 Jun 03	Iraq	Haditha	30	6	Not Known	http://www.sadnews.net/CTZ/0Mem/WarM/US-IQ2/US-IQ2003-5-6.htm NATO MSIAC
73	30 Jun 03	Iraq	Fallujah	5	4	Handling	http://www.brandonblog.com/07-01-03-photos.html
74	12 Jul 03	Russia	Vladivostok	0	13	Firecracker in ASA !	NATO MSIAC
75	03 Aug 03	Afghanistan	Aqcha	13	20+	Handling	http://news.bbc.co.uk/1/hi/world/south_asia/3123227.stm
76	16 Jul 03	Angola	Menongue	2	15	Fire	NATO MSIAC
77	17 Aug 03	Iraq	Tikrit	12	0	Handling (?)	NATO MSIAC
78	04 Sep 03	Iraq	Rutbah	3	16	Not Known	NATO MSIAC
79	19 Sep 03	Afghanistan	North of Kabul	9	0	Handling	NATO MSIAC
80	19 Sep 03	Afghanistan	East of Kabul	9	0	Handling	NATO MSIAC
81	11 Oct 03	Ukraine	Artyomovsky	0	2	Fire (?)	http://signs-of-the-times.org/signs/signs277.htm http://jang.com.pk/thenews/oct2003-daily/11-10-2003/world/w13.htm
2004 (16 Incidents)							
82	Feb 04	North Korea	Seonggang	1000?	NK	Unconfirmed	**Biting the Bullet Brief 18**, *Ammunition Stocks: Promoting Safe and Secure Storage and Disposal*, February 2005.
83	Feb 04	Paraguay	Asuncion	0	0	Fire	Biting the Bullet Brief 18
84	01 Feb 04	Iraq	Karbala	20	0	Not Known	NATO MSIAC
85	19 Feb 04	India	Amritsar	0	30	Not Known	NATO MSIAC
86	25 Feb 04	Phillipines	Quezon City	0	4	Fire	NATO MSIAC

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				FATAL	INJURED		
87	09 Apr 04	Vietnam	Ho Chi Minh City	1	10	Not Known	Biting the Bullet Brief 18
88	22 Apr 04	North Korea	Ryongchon	54	1200+	Transport	http://globalsecurity.org/military/world/dprk/ryongchon-imagery.htm
89	02 May 04	Iraq	Kirkuk	0	0	Security / Sabotage	American Forces Press Service, Washington, 07 June 2004. http://www.defenselink.mil/news/Jun2004/n06072004_200406078.html http://www.informationclearinghouse.info/article6578.htm
90	06 May 04	Ukraine	Novobogdanovka	5	10	Fire (Human Error - Smoking)	ITAR-TASS, Wednesday, 12 May 2004
91	09 Jul 04	India	Amlangar	0	2	Fire	**Biting the Bullet Brief 18** http://www.ndtv.com/morenews/showmorestory.asp?slug=IAF+depot+fire+destroys+explosives&id=56886
92	11 Jul 04	Afghanistan	Herat	5	34	Sabotage	NATO MSIAC
93	26 Aug 04	India	Chowdar	0	0	Fire	The International News Internet Edition, Friday 27 August 2004. http://www.jang.com.pk/thenews/aug2004-daily/27-08-2004/main/main13.htm
94	12 Sep 04	North Korea	Ryanggang			UNCONFIRMED	http://blog.marmot.cc/archives/2004/09/12/breaking-news-blast-mushroom-cloud-reported-in-north-korea/
95	06 Nov 04	Taiwan	Chisan	3	0	Handling	NATO MSIAC
96	07 Dec 04	Russia	Chechyna, Achkhoi-Martan	0	0	Fire	http://in.news.yahoo.com/041207/43/2ibqg.html
97	29 Dec 04	Taiwan	Kinmen	0	0	Fire	NATO MSIAC
2005 (22 Incidents)							
98	09 Jan 05	Iraq	As Suwayrah	8	11	Handling / Demolitions	GlobalSecuurity.org, MNF-I/MNC-I 09 Jan 2005. http://www.globalsecurity.org/military/library/news/2005/01/mil-050109-mnfi-mnci18.htm
99	Jan 05	Mozambique	Beira	0	0	Further to events of 30 Oct 02.	UNDP Mozambique
100	13 Feb 05	Lebanon	Majadel	0	0	Lightning	GZ
101	24 Feb 05	Sudan	Juba	80	250+	Fire (Electrical ?)	UN OCHA, Tuesday 25 June 2005. http://www.irinnews.org/print.asp?ReportID=45780 Sudan News

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				FATAL	INJURED		
102	24 Feb 05	Nigeria	Kaduna	4	44	Fire	Nigeria World News & Archives, 24 February 2005. http://news.biafranigeriaworld.com/archive/thisday/2005/02/24/explosions_rock_kaduna_ammunition_depot.php
103	04 Mar 05	Ivory Coast	Abidjan	2	1	Handling	NATO MSIAC
104	31 Mar 05	Cambodia	Andong Chen	6	20	High Temperature	EU ASAC
105	01 Apr 05	Lebanon	Majadel	0	0	Lightning	NATO MSIAC
106	10 Apr 05	Italy	Baiano di Spoleto	0	4	Not Known	NATO MSIAC
107	02 May 05	Afghanistan	Bajgah	29	13+	Illegal storage Sabotage?	BBC News, 05 May 2005. http://news.bbc.co.uk/1/hi/world/south_asia/4516291.stm
108	06 May 05	Ukraine	Tsvitokha	0	0	Not Known	Presentation NATO TRUST, DC, 22 Feb 07.
109	17 May 05	Russia	Kronstadt	0	6	Handling	http://www.mosnews.com/news/2005/05/17/kronstadtfire.shtml
110	18 Jun 05	Guatamala	Guatamala City	0	0	Fire	NATO MSIAC
111	25 Jun 05	Afghanistan	Rustaq	6	20	Handling / Electrical Spark (?)	Deutsche Welle, 27 June 2005. http://www.dw-world.de/dw/briefs/0,1574,1629946,00.html NATO MSIAC
112	23 Jul 05	Ukraine	Novo-Bogdanovka	0	0	Grass Fire	http://www.sgpproject.org/Personal%20Use%20Only/UKRConventionalWeaponsSecurity.html
113	09 Sep 05	Taiwan	Matsu	0	0	During demilitarization operations.	NATO MSIAC
114	09 Sep 05	Taiwan	Tashu	3	0	Ammunition production	NATO MSIAC
115	12 Sep 05	Philippines	Taguig City	0	107	Lightning?	NATO MSIAC
116	30 Sep 05	Russia	Kamchatka	0	1	Internal Fire / TBC	http://www.trltd.com/trintel/kamchatka_ammunition_depot_explosion.php
117	25 Nov 05	DRC	Walikale, Nord-Kivu	6	0	Lightning	NATO MSIAC
118	08 Dec 05	Pakistan	Jhandola	12	50	Handling	NATO MSIAC
119	20 Dec 05	Russia	Moscow	3	2	Fire (Pyrotechnics)	http://www.mosnews.com/news/2005/12/20/fireworks.shtml
2006 (20 Incidents)							

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				FATAL	INJURED		
120	28 Jan 06	Kenya	Nairobi	0	0	Electrical fault	NATO MSIAC
121	07 Feb 06	Pakistan	Dera Bugti	0	0	Fire	NATO MSIAC
122	23 Mar 06	Afghanistan	Jabal Saraj	2	60	Electrical Fire (?)	http://www.chron.com/disp/story.mpl/ap/world/3745288.html NATO MSIAC
123	31 Mar 06	USA	Bloomington (Crane)	0	3	Handling (During Demil)	
124	28 Apr 06	Russia	Sergiyev Posad	2	0	Not Known. (During Demil)	AP 03 May 06
125	30 Apr 06	Kuwait	Nuwaiseeb	0	0	Not Known	NATO MSIAC
126	06 May 06	Albania	Tepelena	1	5	Handling (During Demil)	http://english.pravda.ru/news/world/06-05-2006/79999-Albania-0
127	10 May 06	Taiwan	Taipai	2	2	Not Known (Ignition?)	http://en.chinabroadcast.cn/811/2006/05/10/53@87230.htm
128	19 May 06	Sudan	Juba	2	10	Not Known	UNDP Sudan
129	22 May 06	Kazakhstan	Karatal	0	0	Fire	
130	12 Jun 06	USA	Iowa (Middletown)	2	2	Not known (Production)	http://www.globalsecurity.org/org/news/2006/060612-plant-explosion.htm
131	08 Jul 06	Montenegro	Vir	0	32	Lightning	UNDP SACISCG
132	22 Jul 06	Kazakhstan	Karatal	0	0	Fire	Interfax / BBC Monitoring
133	01 Aug 06	Sri Lanka	Kalutura	1	0	Not Known	GZ
134	10 Aug 06	Sri Lanka	Allai-Kantalai	0	0	Not Known	http://www.sibernews.com/the-news/tamileelam/blast-destroys-sla-ammunition-store-200608104965/and/or/
135	19 Aug 06	Ukraine	Novobogdanovka	0	4	Fire	OSCE sources
136	24 Aug 06	USA	Louisiana (Doyline)	0	0	Not Known (During Demil)	http://www.cbsnews.com/stories/2006/08/24/national/main1933525.shtml
137	10 Oct 06	Iraq	South Baghdad	0	0	Fire / Insurgent Attack	http://abcnews.go.com/International/wireStory?id=2551948&CMP=OTC-RSSFeeds0312
138	19 Oct 06	Serbia	Paracin	0	10	Not Known	http://www.b92.net/info/vesti/index.php?yyyy=2006&mm=10&dd=19&nav_id=216026
139	Dec 06	Mozambique	beira	5	0	Human Error (Scavenging)	GZ
2007 (27 Incidents)							
140	? Jan 07	Mozambique	Malhuxine	0	3	Not Known	http://www.makingthelinksradio.ca/index.php?option=com_content&task=view&id=100&Itemid=30

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SER	DATE	COUNTRY	LOCATION	CASUALTIES		REMARKS / POSSIBLE CAUSE	SOURCE
				FATAL	INJURED		
141	02 Jan 07	Brazil	Sao Paulo	1	5	Not Known	http://www.iht.com/articles/ap/2007/01/02/america/LA_GEN_Brazil_Explosion.php
142	02 Mar 07	Slovakia	Novaky	8	45	Not Known	http://www.ecanadanow.com/world/2007/03/04/slovakian-prime-minister-confirms-eight-workers-died-in-explosion/
143	22 Mar 07	Mozambique	Malhuxine	104+	400+	Not Known	SEESAC Report http://www.chron.com/disp/story.mpl/ap/world/4655833.html
144	08 Apr 07	Sudan	Khartoum	0	0	Electrical Fire?	http://www.sudantribune.com/spip.php?article21239
145	18 Apr 07	France	Metz	2	1	Not Known (During Demil)	http://www.lenta.ru/news/2007/04/18/depot/
146	23 Apr 07	Thailand	Muang	0	0	Not Known	http://nationmultimedia.com/2007/04/25/headlines/headlines_30032660.php
147	16 May 07	USA	Milan	0	0	Propellant Fire	http://www.jacksonsun.com/apps/pbcs.dll/article?AID=/20070517/NEWS01/705170307/1002
148	17 May 07	India	Dehra Dun	5	5	Not Known (During Processing)	http://www.hindu.com/thehindu/holnus/001200705172168.htm
149	18 May 07	Ukraine	Novobogdanovka	2	1	During EOD Clearance [13]	http://www.iht.com/articles/ap/2007/05/18/europe/EU-GEN-Ukraine-Ammunition-Depot.php
150	31 May 07	Yemen	Sana'a	0	0	Not Known	http://www.sabanews.net/view.php?scope=f9129&dr=&ir=&id=132246
151	17 Jun 07	Congo	Mbandaka	3	52	Not Known	http://www.strategypage.com/qnd/congo/articles/20070624.aspx
152	18 Jun 07	Slovenia	Pivka	3	2	Not Known (During Demil)	Email from www.sta.si
153	23 Jun 07	Mozambique	Malhuxine	5	11	During EOD Clearance [14]	UNDP Mozambique
154	29 Jun 07	India	Bhandrawati	0	0	Fire	UK EIDAS
155	30 Jun 07	Yemen	Noqum	0	0	Rock Fall	UK EIDAS
156	15 Jul 07	Columbia	NK	0	0	Not Known	
157	26 Jul 07	Syria	Aleppo	15	50	Propellant Fire (?)	http://www.haaretz.com/hasen/spages/886605.html
158	11 Aug 07	India	Srinagar (Khundru)	18	19	Not Known	http://www.tribuneindia.com/2007/20070814/j&k.htm
159	24 Aug 07	Serbia	Paracin	0	0	Fire during EOD Clearance	SEESAC Report

[13] This statistic included as the EOD Clearance is as a direct result of previous explosions at this depot.

[14] See Footnote above.

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				FATAL	INJURED		
160	30 Aug 07	Mexico	San Antonio, Las Palmas	2		Not Known	
161	20 Sep 07	Romania	Dabovitza	0		During Demil	
162	20 Sep 07	Vietnam	Minh Son	3		Not Known	http://thestar.com.my/news/story.asp?file=/2007/9/21/apworld/20070921122338&sec=apworld
163	25 Sep 07	Chile	Talagante	0		During Demil	
164	13 Nov 07	Iran	Parchin	0	4	Fire	NATO MSIAC
165	29 Dec 07	Columbia	Medellin	8	6	Not Known	NATO MSIAC
166	31 Dec 07	Taiwan	Shinsheh	1	1	Handling	NATO MSIAC
2008 22 Incidents							
167	25 Feb 08	Iran	Tabriz	0	0	Not Known	NATO MSIAC
168	15 Mar 08	Albania	Gerdec	26	300+	Not Known	http://www.reliefweb.int/rw/rwb.nsf/db900sid/MUMA-7CV2NX?OpenDocument
169	11 Apr 08	Ukraine	Rocket Base 275	0	3	Not Known	http://www.russiatoday.com/news/news/29565
170	17 Apr 08	Germany	Furth	0	1	During Demil	NATO MSIAC
171	15 May 08	France	Vierzon	1	4	During Demil	NATO MSIAC
172	23 May 08	Russia	Lodeinoye Pole	0	0	Fire	NATO MSIAC
173	07 Jun 08	Taiwan	Kinmen	0	0	Fire	NATO MSIAC
174	17 Jun 08	Germany	Hunxe	1	0	During Demil	NATO MSIAC
175	03 Jul 08	Bulgaria	Chelopechene	0	0	Not Known	http://www.iht.com/articles/ap/2008/07/03/europe/EU-Bulgaria-Explosions.php
176	09 Jul 08	Uzbekistan	Kagan	3	21	Fire	http://uk.reuters.com/article/worldNews/idUKL1072672720080710
177	02 Aug 08	Mexico	Indaparapeo	0	0	Fire	NATO MSIAC
178	10 Aug 08	Bulgaria	Kazanlak	0	0	Fire	NATO MSIAC
179	10 Aug 08	Pakistan	Quetta	1	3	Fire	UK EIDAS

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				FATAL	INJURED		
180	23 Aug 08	Georgia	South Ossetia	0	0	Not Known. May be UXO instead	UK EIDAS
181	27 Aug 08	Ukraine	Lozovaya	0	1	Fire	http://www.russiatoday.com/news/news/29565
182	30 Aug 08	India	Bandipora	0	0	Not Known	NATO MSIAC
183	01 Sep 08	Mozambique	Beira	0	0	Fire	Mozambique Public TV
184	05 Sep 08	USA	Newtown, Cincinnati	0	0	Fire	NATO MSIAC
185	20 Oct 08	India	Khundru	1	3	Handling	http://www.greaterkashmir.com/latest_Story.asp?Date=20_10_2008&ItemID=1
186	31 Oct 08	Philippines	Mindanao	0	0	Fire / WP	http://www.gmanews.tv/story/130551/Fire-razes-army-ammo-depot-in-Shariff-Kabunsuan
187	04 Dec 08	India	Gandhidamn	2	6	Fire	http://timesofindia.indiatimes.com/India/_Blast_at_Army_depot_kills_2/articleshow/3793942.cms
188	27 Dec 08	Iran	Zarin-Shrar	8		Possible Manufacture Incident	NATO MSIAC
2009 21 Incidents							
189	06 Jan 09	Albania	Polican	1	0	Handling / Fire	http://www.iht.com/articles/ap/2009/01/06/europe/EU-Albania-Explosion.php
190	18 Feb 09	Brazil	Sao Jose dos Campos	0	1	Not Known	GZ.
191	08 Mar 09	Georgia	Mosabruni (South Ossetia)	NK	NK	Not Known	http://www.finchannel.com/index.php?option=com_content&task=view&id=31437&Itemid=13
192	19 Mar 09	Kazakhstan	Darbaza (Arys)	4	16	Fire	http://www.interfax.com/3/480898/news.aspx
193	29 Apr 09	Tanzania	Dar es Salaam	3	150+	Not Known	http://news.bbc.co.uk/1/hi/world/africa/8024656.stm
194	17 May 09	Egypt	Abu Sultan	0	NK	Not Known	NATO MSIAC
195	27 May 09	Mozambique	Maringue	0	0	Not Known	http://www.news24.com/
196	06 Jun 09	Sri Lanka	Jaffna	0	0	Fire	http://www.dailymirror.lk/DM_BLOG/Sections/frmNewsDetailView.aspx?ARTID=51461
197	08 Jun 09	Sri Lanka	Vavuniya	0	0	Fire	NATO MSIAC
198	08 Jun 09	Kazakhstan	Almaty	1	0	Not Known	http://www.nasdaq.com/aspx/stock-market-news-story.aspx?storyid=200906090355dowjonesdjonline000095&title=one-killed-in-kazakhstan-munitions-depot-blast-ministry
199	22 Jun 09	Afghanistan	Jalalabad	1	20	Not Known	http://uk.reuters.com/article/idUKTRE55L0LE20090622

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				FATAL	INJURED		
200	28 Jun 09	Cambodia	Takmau	0	5	Not Known	http://www.metronews.ca/ottawa/world/article/253135--security-forces-report-accidental-ammo-explosion-near-bodyguard-unit-for-cambodian-premier
201	13 Jul 09	Turkey	Yuksekova	4	3+	Not Known	http://news.bbc.co.uk/2/hi/europe/8149800.stm
202	14 Jul 09	Lebanon	Khirbet Selm	NK	NK	Not Known (Hezbollah Dump)	http://www.ennaharonline.com/en/international/1684.html
203	03 Sep 09	Serbia	Uzice	7	14	Negligence	http://www.novinite.com/view_news.php?id=107457 NATO MSIAC
204	14 Sep 09	Russia	Chelyabinsk	1	2	Not Known	GZ
205	25 Sep 09	Iraq	Baashika	15	NK	Not Known	http://www.washingtonpost.com/wp-dyn/content/article/2009/09/25/AR2009092502369.html?hpid=moreheadlines
206	04 Oct 09	Sri Lanka	Kilinochchi	0	0	Recovered explosives	NATO MSIAC
207	15 Oct 09	Indonesia	South Sumatra	0	0	Recovered explosives	NATO MSIAC
208	13 Nov 09	Russia	Ulyanovsk	2	60	Negligence during Disposal	http://www.unvamagazine.com/news-around-the-world/another-deadly-explosion-at-ulyanovsk/
209	23 Nov 09	Russia	Ulyanovsk	8	2	Handling	http://www.dnaindia.com/world/report_blast-at-russian-arsenal-kills-8-military-personnel_1315631
2010 (To Date) 8 Incidents							
210	20 Jan 10	Iran	Bandar Abbas	0	3	Fire	NATO MSIAC
211	03 Feb 10	Bulgaria	Gorni Lorn	0	4	Fire in storage at production facility.	http://www.novinite.com/view_news.php?id=112777
212	19 Feb 10	Russia	Ulanovsk	1	35	Not known	http://www.liveleak.com/view?i=a19_1258128168
213	02 Mar 10	Yemen	Taiz	19	15	Stored in residential building!	http://www.fizanews.com/2010/03/02/yemen-dynamite-blast-kills-19-people/
214	06 Mar 10	Montenegro	Niksic	0	3	Demil	NATO MSIAC
215	19 Mar 10	Mexico	Atequizayan	1	1	Not known	NATO MSIAC
216	26 Mar 10	India	Panagarh	0	0	Fire	NATO MSIAC
217	04 Jul 10	Russia	Biisk	6	0	Handling	http://www.themoscowtimes.com/news/article/chain-saw-ammunition-work-kills-6/409783.html

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Annex B – Summary of Causes (As at 01 Apr 09)

DECLARED CAUSE	# OF EVENTS	%	ADJUSTED %[15]	REMARKS
Auto-Ignition of Propellant	7	3.7	5.8	
During Demil / EOD Clearance	**17**	**9.0**	**14.0**	
Electrical Fault	5	2.6	4.1	
Fire	**48**	**25.4**	**39.7**	A significant number of these may be propellant auto-ignition.
Handling / Negligence	**24**	**10.6**	**19.8**	
High Temperature	3	1.6	2.5	
Lightning	8	4.2	6.6	
Not Known	68	36.0		
Security	6	3.2	5.0	
Others	3	1.6	2.5	
TOTALS	**189**	**100.0**	**100.0**	

[15] Assuming all 'Not Knowns' are spread proportionally against the other possible causes.

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