

**“Crowd Control Technologies : An Assessment  
Of Crowd Control Technology  
Options For The European Union”**

**(An Appraisal of the Technologies of Political Control)  
(EP/1/1V/B/STOA/99/14/01)**

**SECTION C**

**TECHNICAL ANNEX**

**The Omega Foundation.  
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## Table of Contents

<b>SECTION C: TECHNICAL ANNEX</b>	
Appendix 1. Manufacturers, Suppliers or Distributors of Crowd Control products 1990-2000.	
Appendix 2. 'Less-than-Lethal' Weapon Survey.	
Appendix 3. Tabular Summary of 'Less Lethal' weapons and technologies	
Appendix 4. 2 <sup>nd</sup> Generation 'Less Lethal' Weapons	
Appendix 5. Countries deploying Chemical Irritant Weapons and Selected Injuries and Deaths Associated with deployment.	
Appendix 6. Use of 'Less Lethal' technologies in Conjunction with Lethal firearms.	
Appendix 7. Worldwide deployment of Crowd Control Weapons. 1990-2000.	
Appendix 8. European Inventory of Crowd Control Technologies.	

## APPENDIX 1

<b>SUMMARY TABLE (BY REGION) OF MANUFACTURERS, SUPPLIERS OR DISTRIBUTERS OF CROWD CONTROL PRODUCTS. 1990 - 2000.</b>					
	Chemical Irritants	Kinetic Weapons	Water Cannon	Stun grenades	Electro-shock weapons
Europe	88	61	19	22	30
Central / East Europe	7	9	-	5	6
Africa	10	6	2	1	3
Asia / Pacific	27	14	1	6	24
Latin America	12	4	-	2	9
Middle East	11	10	7	2	9
North America	113	57	14	16	42

Notes:

(1) These figures are extracted from the larger table shown below. The data for this table comes from company information held by the Omega Foundation database on worldwide MSP (Military, Security, Police) products and services. The database is regularly updated but these figures should be taken as indicative only. They are not totally comprehensive and can not represent the true scale of the industry sectors identified.

<b>SUMMARY TABLE (BY EUROPEAN COUNTRY) OF MANUFACTURERS, SUPPLIERS OR DISTRIBUTERS OF CROWD CONTROL PRODUCTS. 1990 - 2000.</b>					
	Chemical Irritants	Kinetic Weapons	Water Cannon	Stun grenades	Electro-shock weapons
Austria	1				
Belgium	3	2	1	1	1
France	25	17	5	3	11

Germany	21	10	3	4	13
Greece	-	-	-	1	-
Italy	2	2	2	-	-
Netherlands	1	1	-	-	-
Portugal	1	-	1	-	-
Spain	5	2	1	1	1
Sweden	2	-	-	-	-
Switzerland	1	-	-	-	-
United Kingdom	26	27	6	12	5 (1)

(1) The manufacture, supply and transfer of electro-shock weapons from the United Kingdom was banned in July 1997.

**APPENDIX 1. MANUFACTURERS, SUPPLIERS OR DISTRIBUTERS OF CROWD CONTROL PRODUCTS. 1990 - 2000.**

Company	Country	Chemical Irritants					Kinetic weapons					Other		
		CS (tear gas)	CN	CR	OC	Pava	Plastic rounds	Rubber round	Wood round	Riot guns	Batons/ Truncheons	Water Cannon	Stun / Flash grenades	Electro-shock weapons
	<u>Europe</u>													
	<u>Austria</u>													
ARGES		√	√											
	<u>Belgium</u>													
Belgian Business International													√	
Browning SA		√						√		√				
FN Nouvelle Herstal		√								√				
MECAR SA		√										√		
Mol Cy											√			
	<u>France</u>													
A2CM										√				
Aerochem		√								√				
AKAH (Albrecht Kind)		√								√			√	
Auto F													√	
Camiva											√			
Comoditex Groupe Bacou		√	√							√				
CSC SA		√							√	√		√		

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		CS (tear gas)	CN	CR	OC	Pava	Plastic rounds	Rubber round	Wood round	Riot guns	Batons/ Truncheons	Water Cannon	Stun / Flash grenades	Electro-shock weapons
CSI Princhim SA		√												
DLD SA		√												√
Doursoux Securtec		√			√									√
Eclats Antivols		√			√									√
Equipol		√	√		√		√	√		√				√
Etienne Lacroix Tous Artifices		√								√				
Etoile International		√												
Export Trading Services Sarl											√			
FEVAM Ind Co		√										√		
France-Selection		√												√
GK Productions International		√									√			
Glam Securite		√												√
Le Protecteur		√									√			√
Lohr Industrie												√		
Manurhin Equipment		√						√		√				
Midwest trading Corporation		√									√			
Multiforma Industries / Dune														√
Neral & Cie		√	√							√	√			√
Nobel Securite (Group SNPE)		√					√	√		√				

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Renault Vehicules Industrielles												√		
Ruggieri		√											√	
SAE Alsetex		√	√		√								√	
Societe d'application des Procedes Lefebvre (SAPL)		√						√		√				
Soframe												√		
SNPE Materiaux (Maintien d l'Ordre et Securite		√						√		√				
Verney-Carron		√						√		√				
	<u>Germany</u>													
Albrecht Kind GmbH		√												√
Bonowi		√									√			√
Buck System		√	√											
Carl Hoernecke Chemische		√	√			√								√
Defense Technology (Def-tec)		√	√		√								√	
Depyfag Pyrotechnic Ufrungen		√												
Dipl. Ing. H Wallfass - Electron		√								√				√
Dynamit Nobel		√											√	

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Enforcer Pulz & Charbit		√												√
ERO Sicherheits		√												
F Feistel		√				√	√	√				√		
Heckler & Koch						√	√		√					
Helling Kommanditgesellschaft		√												
HJM Jakobi										√				
IDC Chemie Handels		√	√		√	√								
Johannes Feier - Ingenieurburo														√ Nets
Mercedes Benz AG Internatioanl											√			
Micro & Security Electronic		√												√
Nico Pyrotechnik		√	√						√			√		
Nowar Security Equipment										√				√
Piepenbrock Pyrotechnik		√	√			√	√	√	√		√			
PK Electronic International		√									√			√
Pyrotechnik Ufrungen		√												
Roemr Helme										√				
Security equipment Service														√
Silberhutte Pyrotechnik		√	√				√							



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Solid Company, Sicherheitstechnik Import														✓
TEWI Textil Wighardt		✓												✓
Wapo Electronic		✓												✓
	<u>Greece</u>													
Elviemak SA												✓		
	<u>Italy</u>													
Arnoplastik Defence Dept														
Carrozzeria Chinetti											✓			
Luigi Franchi			✓						✓					
Gruppo Nueva MA											✓			
SIMAD Stacchini		✓	✓					✓	✓					
Tirrena Sipa														
	<u>Netherlands</u>													
Crown Aircartridge / Airmunition International						✓								
Netherlands Forces		✓												
	<u>Portugal</u>													
Bravia-Sociedade Luso- Brasileira de Viatures											✓			

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Gasin Gases Industriale		√												
	<u>Spain</u>													
DEFEX SA		√								√	√			
East / West Engineering Co		√												
Falken SA		√										√		
NitSpy Defensa Y contraespionaje		√												√
Plasticas Oramil Sa (Weapons Division)														
Roal Guarnicioneria SA		√			√					√				
	<u>Sweden</u>													
Dabi-Chem Ltd		√												
Norabel Hansson		√												
	<u>Switzerland</u>													
IDC System		√	√		√	√								
	<u>United Kingdom</u>													
A.B.G Rubber & Plastics (Industrial) Ltd										√				

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		CS (tear gas)	CN	CR	OC	Pava	Plastic rounds	Rubber round	Wood round	Riot guns	Batons/ Truncheons	Water Cannon	Stun / Flash grenades	Electro-shock weapons
ADCO Marketing Ltd		√												
Argo										√				
Arnold Engineering Plastics Ltd										√				
Cold Formed Products														
ALM International		√			√									
British Aerospace Defence Ltd		√				√			√					
Brocks Explosives		√				√						√		
Chemring plc		√	√			√			√			√		
Civil Defence Supply		√			√	√				√				√ (1)
Clucas Diving & Marine Engineering		√												
Conjay Firearms & Ammunition		√	√			√								
Deenside Ltd										√				
Earle Trading		√	√	√				√	√			√		
Edgar Brothers		√	√											
Eley Ammunition								√						
GKN Defence											√			

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Glover Webb												√		
Gould & Goodrich (UK)		√	√											
Haley & Weller		√	√				√						√	
Hiatt & Co Ltd										√				
ICL Technical Plastics		√					√			√				√ (1)
ICM (Plastic Moulding)							√							
Interstate Technical Products		√					√	√	√					
ISTEC Consultants / ISTEC Services							√							
J&S Franklin		√												√ (1)
Londesborough Security equipment														
Manroy Defence Sales		√												
Nisam International										√				
Pains Wessex (Schermyly)		√	√				√	√		√	√		√	
PG Products Ltd										√				
PK Electronic International		√								√	√			
Porton Down (Chemical & Biological Defence Est)		√					√							

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Primetake		√										√		
Prince Perimeter Security Ltd											√			
Procurement Services International											√		√ (1)	
QED Design & Manufacture												√		
Richmond Electronics & Engineering International						√								
Royal Ordnance - Large Guns & Vehicles		√				√			√			√		
Royal Ordnance plc		√				√			√			√	√ (1)	
Safeguard Technology					√									
Sky Media Ltd		√										√		
Special Cartridge Company		√										√		
Teston Engineering						√								
Transac International											√			
Viking Arms		√							√			√		
	<u>Eastern Europe</u>													
	<u>Bulgaria</u>													

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Niti Kazanlah							√							
	<u>Czech Republic</u>													
Poliske strojirny as									√					
SUPRA Spol sro		√												
Telisko		√												
	<u>Hungary</u>													
Ferunion							√							
	<u>Latvia</u>													
Rigas Autoelektrparatu Rupnica		√												
	<u>Lithuania</u>													
Ekoliet Uzdaroji akcine bendrove		√							√					
	<u>Poland</u>													
Albi Sp. Z.o.o														√
Intelligent System Application Company Ltd (ISACO)														√
Zaklady Metalowe Lucznik									√					
	<u>Russian Federation</u>													
March (Joint Stock Company)														√
Federal Security Service of the Russian Federation												√		

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Russian Federation														
NII Stali														√
NPO														√
Research Institute of Precise Mechanical Eng									√					
Research Institute of Special Technics		√						√				√		
Science Research Institute for Precision Device Engineering														√
<u>Former Yugoslavia</u>														
Institute of Security		√						√	√			√		
Kompanija Sloboda DD								√				√		
YugoImport / Federal Directorate of Supply & Procurement FDSP		√						√				√		
<u>Africa</u>														
<u>South Africa</u>														
African Explosives & Chemical Industries (AECI)		√												
Denel		√					√							
Force Group														√

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Gold Fields Security Ltd		√						√						
John Elliot & Associates														√
Knock Down Security cc		√												√
Republic Arms		√						√	√					
Reumech OMC		√						√			√			
Safe Case Corporation		√												
Security Systems		√												
Swartklip Products		√					√	√	√			√		
SWAT Deftac		√	√		√									
TFM Olifantsfontein									√		√			
	<b>Asia / Pacific</b>													
	<b>Australia</b>													
Kenmax Special Products		√								√		√		
	<b>China</b>													
China National Electronics Import & Export Corp (CEIEC)														√
China North Industries Corp (NORINCO)		√						√	√			√		√



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(NORINCO)														
Fujian Quon Zhou Haibin Factory										√				
Hongqi machinery Plant		√												
Jing An (China) Equipment Import & Export		√								√				√
Nanjing Security Equipment														√
Public Security Science & Technology research		√								√				√
State No.556 Factory		√												
State Run No 764 factory														√
W&F International Chemical Corp		√												
Wuhan No.812 Factory		√												√
	<u>Hong Kong</u>													
King Hope Enterprises Ltd														√
	<u>India</u>													
Ghouse Arms & Ammunition		√							√					
Indian Border Security Force Tear Smoke Unit			√	√									√	
IOL Ltd		√												
Weston Electroniks		√												

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		CS (tear gas)	CN	CR	OC	Pava	Plastic rounds	Rubber round	Wood round	Riot guns	Batons/ Truncheons	Water Cannon	Stun / Flash grenades	Electro-shock weapons
	<u>Indonesia</u>													
Gasah Tunggal Electronics														√
PT Batu Karas		√												√
PT Pindad (Persero)			√						√					
	<u>Japan</u>													
Toa Simpson Inc										√				√
	<u>Malaysia</u>													
Kerambit		√												
Pacific Activated Carbon		√												
SME Industries		√												
	<u>Philippines</u>													
Hearth & Hastings														√
	<u>Singapore</u>													
Chartered Pyrotechnic Industries												√		
Singapore Technologies (Ordnance)		√						√				√		
WH Brennan & Co														
Unicorn International		√												
Zenith Engineering Pte Ltd											√			

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	<u>South Korea</u>													
Dae Sung Tech Co										√			√	
Jeonghae Technology Co Ltd													√	
Konic Pyrotechnic												√		
Korea Development of Safety Gear Corp		√					√	√		√	√		√	
Mike Trading Co										√			√	
Samyang Chemical Co		√												
S.K. Electronics Corp													√	
	<u>Taiwan</u>													
Combined Services Forces		√	√											
Great Cathay Products Mfg Inc (Safron Group)					√								√	
Hsing Hua Company		√	√											
King Jaw Industrial Co Ltd													√	
Maw Don Co. Ltd													√	
Ramdon Chemicals Co					√									
Sang Min International Co					√					√			√	
Taichi Roc Industrial Corp					√								√	
Teh Huang Plastic Co Ltd										√			√	

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Tepass Special Security Equipment Co													√	
	<u>Latin America</u>													
	<u>Argentina</u>													
Tomart Enterprises Ltd													√	
	<u>Brazil</u>													
Brasil Comercial Importadora													√	
Brasil Sul Industrias e Comercio		√	√					√	√			√		
Companhia De Explosivos Valparaiba			√											
Condor SA - Industria Quimica		√	√				√	√				√		
Hydroar SA		√	√											
Inbrafiltro (AKSO)													√	
Sherwood Internacional Representacao		√	√											
	<u>Mexico</u>													
Alta Tecnologia en Productos de Seguridad		√								√			√	
Altec Internacional SA de CV		√											√	
Mantenimiento y		√								√				

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Comercializacion SA de CV (MACOISA)														
Promotora Trebol		√												√
Proteccion Invisible SA de CV														√
Tecnoboss SA de CV					√									√
Ultra Alarme		√												√
	<u>Peru</u>													
Sima Electronica		√												
	<b>Middle East</b>													
	<u>Egypt</u>													
Abu Kir Engineering Industries / Factory 10		√												
Egypt & Middle East Co										√				
Perfect Security Systems											√			
	<u>Iran</u>													
Iranian Defence Industries Organisation		√												√
	<u>Israel</u>													
Avnon Trade									√		√			
Beit Alfa Trailers											√			

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Hatehof Ltd												√		
Hightech Technology			√									√		√
Geisler Defence		√			√									√
ISPRA		√	√		√		√	√	√	√	√	√	√	√
Kalia Ltd - Contact International								√	√					
Security World Ltd										√				√
SPL Ordnance		√	√				√		√	√	√			√
Taas Israel Industries		√	√					√	√			√		√
TAR Ideal Concepts					√									√
	<u>Kuwait</u>													
Ahmed Al Saleh & Sons Co		√								√				√
	<u>Qatar</u>													
Gulf Computer Support										√				
	<u>Saudi Arabia</u>													
Arabian Gulf Group for Trading Services		√												
Saudi Industrial Gas Co		√												
	<u>United Arab Emirates</u>													
Adnan Trading Est										√				

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<b>North America</b>														
<u>Canada</u>														
Cobrale Security Force										√				
Nico Pyroprecision Inc												√		
Northern Ordnance				√										
R. Nicholls Inc Distributers	√	√		√		√			√			√		
Sudamex Export Trading Corporation	√									√	√		√	
<u>United States of America</u>														
1 Mark Inc				√										
AAI Corporation	√	√		√					√			√		
Aardvark Tactical Inc	√	√		√					√	√				
Accuracy Systems	√						√					√		
Adamson Industries Corp												√		
Advanced Defense Technologies				√										

**APPENDIX 1. MANUFACTURERS, SUPPLIERS OR DISTRIBUTERS OF CROWD CONTROL PRODUCTS. 1990 - 2000.**

Company	Country	Chemical Irritants					Kinetic weapons					Other		
		CS (tear gas)	CN	CR	OC	Pava	Plastic rounds	Rubber round	Wood round	Riot guns	Batons/ Truncheons	Water Cannon	Stun / Flash grenades	Electro-shock weapons
Advanced Materials Labs		√	√		√		√			√			√	
AERKO International		√			√									
Aero/Chem Corp		√	√							√				
Aero Tech Labs					√									
A.F.Y Distributers			√											√
Air Taser Inc														√
Airosol Co		√												
Alpec Team														
Alpina Corporation					√									
ALS Technologies					√		√							√
American Protection Corp										√	√			
American Security Fence Corporation		√												
Angus Fire Armour Corp											√			
Applied Business Corp														
Armament Systems & Procedures Inc					√					√				
Armor Holdings		√	√		√		√	√		√				
Armortek International											√			
Athea Laboratories					√									



**APPENDIX 1. MANUFACTURERS, SUPPLIERS OR DISTRIBUTERS OF CROWD CONTROL PRODUCTS. 1990 - 2000.**

Company	Country	Chemical Irritants					Kinetic weapons					Other		
		CS (tear gas)	CN	CR	OC	Pava	Plastic rounds	Rubber round	Wood round	Riot guns	Batons/ Truncheons	Water Cannon	Stun / Flash grenades	Electro-shock weapons
AV Technology Corporation											√			
B-Safe Industries					√									
B-West Imports													√	
Badge Company of New Jersey					√									
Ballistica Maximus Corp						√	√		√					
Bestex Co (Yong S. Park)													√	
Blankenship Police Supply														
Bulldog Direct Protective Systems Inc											√			
Bushwacker Backpack & Supply					√									
Cadillac Gage Textron											√			
Cap-Stun Weapon Systems					√									
Casco International					√					√				
CCS Communication Control Systems		√											√	
Central Equipment Co		√							√	√				
Century International Arms						√								
Chemical Research & Development Center		√												

**APPENDIX 1. MANUFACTURERS, SUPPLIERS OR DISTRIBUTERS OF CROWD CONTROL PRODUCTS. 1990 - 2000.**

Company	Country	Chemical Irritants					Kinetic weapons					Other		
		CS (tear gas)	CN	CR	OC	Pava	Plastic rounds	Rubber round	Wood round	Riot guns	Batons/ Truncheons	Water Cannon	Stun / Flash grenades	Electro-shock weapons
CIC International		√	√							√				
CIDCO Inc								√						
Coastal Security Products					√									
Combined Systems Inc		√	√					√				√		
Combined Tactical Systems (CTS)		√	√			√		√	√					
Continental Arms Corp		√												
Criminal Research Products		√												√
CSP International					√									
Custom Armoring Corp		√			√					√	√			√
Defenders Netpwork					√									√
Defense Assistance Research Corp		√												
Defense Technology (Def-tec)		√	√		√		√	√	√	√		√		√
Defensive Tactics Institute					√									
Deval Industries					√									
Electraglow					√									√
ElectroMax Inc					√									√
Electronic Security Products					√									√
Executive Armoring Corporation		√												

**APPENDIX 1. MANUFACTURERS, SUPPLIERS OR DISTRIBUTERS OF CROWD CONTROL PRODUCTS. 1990 - 2000.**

Company	Country	Chemical Irritants					Kinetic weapons					Other		
		CS (tear gas)	CN	CR	OC	Pava	Plastic rounds	Rubber round	Wood round	Riot guns	Batons/ Truncheons	Water Cannon	Stun / Flash grenades	Electro-shock weapons
F. Morton Pitt Co		√									√			
Federal Laboratories		√	√		√		√	√	√	√	√			√
Fiocchi USA							√	√						
First American Counter Terrorism Systems Inc												√		
Fox Labs		√			√						√			
Gall's Inc		√												
General Ordnance Equipment Co		√	√		√									
Grenadier Engineering		√	√						√					
Guardian Personal Security					√									
Guardian Protective Devices		√	√		√									
Hamburger Woolen Co					√					√				
Hiatt Thomson Corp		√	√											√
HSV Technologies														√
In Your Face Inc		√			√									
Intelligence Devices		√												
Inter-American Security Products									√					√
International Logistics Systems		√								√	√			√
International Safety Protection		√			√									

**APPENDIX 1. MANUFACTURERS, SUPPLIERS OR DISTRIBUTERS OF CROWD CONTROL PRODUCTS. 1990 - 2000.**

Company	Country	Chemical Irritants					Kinetic weapons					Other		
		CS (tear gas)	CN	CR	OC	Pava	Plastic rounds	Rubber round	Wood round	Riot guns	Batons/ Truncheons	Water Cannon	Stun / Flash grenades	Electro-shock weapons
Interstate Supply Company					√									
JAYCOR					√						√		√	
Jonas Aircraft and Arms Co		√												√
Knight's Armament Company							√							
Knock-Out Security Products		√												√
Kohaut & Company		√	√		√					√				
Law Enforcement Equipment Co		√								√				
Law Enforcement Products		√								√				
Law Enforcement & Security Products		√												
Lawmen Supply Co of NJ		√												
Less Lethal Weapons Corporation of America						√		√						
Lexor International					√									
Luckey Police Products					√									
Mark Three (Pancor)												√		
MEI: Mainhardt Enterprises International		√	√			√	√	√						
MEREX Inc		√												
Milstor Corporation						√								

**APPENDIX 1. MANUFACTURERS, SUPPLIERS OR DISTRIBUTERS OF CROWD CONTROL PRODUCTS. 1990 - 2000.**

Company	Country	Chemical Irritants					Kinetic weapons					Other		
		CS (tear gas)	CN	CR	OC	Pava	Plastic rounds	Rubber round	Wood round	Riot guns	Batons/ Truncheons	Water Cannon	Stun / Flash grenades	Electro-shock weapons
MK Ballistic Systems							√						√	
Monadnock Lifetime Products											√			
Mountain West Alarm Supply														√
MP Laboratories Inc		√	√		√									
Mace Security International		√	√		√		√	√	√					
Naval Jelly Co		√												
Nico Pyrotechnik USA		√					√							
Nova Products					√									√
Olin Ordnance / Winchester			√		√									
Paralyzer Protection Inc														√
Personal Protection Products		√												
Personal Safety Corporation		√			√									√
Phaser International Ltd		√			√									√
Phoenix Systems Inc														√
Police Equipment Suppliers		√												
Poliforce		√							√	√	√			
Precision Ordnance Products		√					√					√		
Premier Crown Corp										√				√
Pro-Aer		√												

**APPENDIX 1. MANUFACTURERS, SUPPLIERS OR DISTRIBUTERS OF CROWD CONTROL PRODUCTS. 1990 - 2000.**

Company	Country	Chemical Irritants					Kinetic weapons					Other		
		CS (tear gas)	CN	CR	OC	Pava	Plastic rounds	Rubber round	Wood round	Riot guns	Batons/ Truncheons	Water Cannon	Stun / Flash grenades	Electro-shock weapons
Professional Safety Products		√			√						√	√		
ProTech Armored products										√	√			
Protective Armored Systems											√			
Quartermaster Uniform Co			√		√					√				√
Rapid Rotation Batons Inc										√				
Reliapon Police Products					√					√				√
Remington Arms Co														
Safe Defense Co					√									√
Safeguard Technology USA					√									
S&J Products & Services					√									√
SAS R&D Services		√												√
Security Equipment Corp		√			√									
Shamash International Inc														√
Sherwood Communications Associates		√	√											
Sherwood International Export Corp		√	√						√					
Shomer-tec										√				
South Central Ordnance		√							√					√

**APPENDIX 1. MANUFACTURERS, SUPPLIERS OR DISTRIBUTERS OF CROWD CONTROL PRODUCTS. 1990 - 2000.**

Company	Country	Chemical Irritants					Kinetic weapons					Other		
		CS (tear gas)	CN	CR	OC	Pava	Plastic rounds	Rubber round	Wood round	Riot guns	Batons/ Truncheons	Water Cannon	Stun / Flash grenades	Electro-shock weapons
SRT Supply Inc		√							√					
Standard Law Enforcement Supply Co		√										√		
Stun Tech Inc													√	
Tamiami International Equip		√											√	
Tasertron													√	
TCCD International					√									
Tear Gas Training Group														
Technipol International Corp		√												
Tracor Aerospace Group														
Trebor Corporation International		√				√		√	√					
Tri-Tech Inc					√									
21 <sup>st</sup> Century Hard Armor Protection Inc					√									
Universal Propulsion Co (UPCO)		√				√	√		√			√		
US Army Materiel Command (Picatinny)														
United Defense Industry		√			√									
Valor Corporation					√								√	
Wolf Pack Arms & Police Supply					√					√		√	√	

**APPENDIX 1. MANUFACTURERS, SUPPLIERS OR DISTRIBUTERS OF CROWD CONTROL PRODUCTS. 1990 - 2000.**

Company	Country	Chemical Irritants					Kinetic weapons					Other		
		CS (tear gas)	CN	CR	OC	Pava	Plastic rounds	Rubber round	Wood round	Riot guns	Batons/ Truncheons	Water Cannon	Stun / Flash grenades	Electro-shock weapons
Supply														
WS Darley & Co		√	√					√	√	√	√		√	
Winder Police Equipment		√												
Winner International					√									
ZARC Interational					√								√	
Ziphron Inc		√												
Totals														

Notes:(1) The manufacture, supply and transfer of electro-shock weapons from the United Kingdom was banned in July 1997.





## APPENDIX 2. LESS-THAN-LETHAL WEAPON SURVEY.

### 1. Introduction.

To inform the policy options of this STOA report it was considered desirable to identify the types of crowd control technologies held by both individual European Union members and countries worldwide. To this purpose, in conjunction with Amnesty International, a postal survey was undertaken of 171 governments. A set of questionnaires were developed and sent to the Health, Defence, Trade/Commerce, Interior and Foreign (or equivalent) ministries in each country. The questionnaires sought data on a range of issues including: (i) the types of crowd control technologies held, deployed and authorised for the civilian, police/prison and military sectors; (ii) if such technologies had been scientifically evaluated; (iii) if such technologies required export licences and (iv) if reporting structures for injuries caused by such technologies had been established. A full copy of the questionnaires is included at the end of this Appendix. To facilitate delivery, the questionnaires were sent to each government ministry via each country's Embassy or Commission in London. Where this was not possible the questionnaires were posted directly EU country where the Embassies were based, typically France or Belgium.

### 2. Response.

Despite a reminder letter, which included a second complete set of questionnaires, the responses from governments were both slow and disappointingly small in number. At the time of writing, only 3 countries had made complete responses (Ireland, Sweden and New Zealand) and only 21 had made partial responses including Denmark, France and Luxembourg within the EU. See Table 1 below for the full list of countries that have responded. Within the EU member states no response was received from the governments of Austria, Belgium, Greece, Netherlands, Portugal, Spain and the United Kingdom. Finland and Italy have notified that their responses are pending. The German Embassy responded that **"according to the German Authorities, the detailed information in the form requested is not held centrally and could only be obtained at disproportionate cost"**. This inability to supply data on chemical irritant holdings would appear puzzling, given the German governments' obligation to provide such data to the Chemical Weapons Convention Inspectorate in the Hague, as stipulated by the CWC Treaty.

### 3. Analysis.

With the disappointing response from EU governments, it was necessary to use other data sources to compile an inventory of crowd control weapons that are authorised or permitted for use by both civilians and police, prison or military forces within EU states. Unfortunately, without comprehensive government data this inventory can only present a partial view. (The inventory is presented as Appendix 8). It was found that within the EU, most states authorise their police forces to use chemical irritants, including Austria, Belgium, Denmark, France, Finland, Germany, Greece, Italy, Luxembourg, Netherlands, Spain, Sweden and the United Kingdom. Only Eire was identified as not deploying Chemical Irritants for police use. A number of EU states prohibit the ownership or use of chemical irritants by civilians, namely Denmark, Netherlands and the United Kingdom.

In addition, at least 6 EU states also authorise the use of kinetic energy weapons (plastic bullets) including, Belgium, Denmark, France, Italy, Spain and the United Kingdom. Water cannon are deployed by 7 states including, Austria, Belgium, France, Germany, Greece, Netherlands and the United Kingdom.

Some of the survey responses highlighted that several government departments were themselves unclear about the specific holdings, deployment and use of such weapons. For example, the UK government, whilst not having responded to the survey questionnaires, indicated to another researcher that UK security forces are authorised to use CS and CN chemical irritants, but omitted to mention that UK special forces are authorised to use the CR agent - data that was already in the public domain.

To put the European deployment of such weapons into a global context, the research project also gathered data on worldwide companies who manufacture, supply or distribute of crowd control weapons (see Appendix 1), the worldwide use of crowd control weapons (see Appendix 7), countries where 'less lethal' weapons had been deployed in conjunction with lethal force (see Appendix 6) and also countries where the deployment of chemical irritant weapons had caused serious injuries or deaths (see Appendix 5).

Overall, 420 companies in 45 countries were identified as manufacturers, suppliers or distributors of crowd control weapons including chemical irritants, kinetic weapons, water cannon, stun grenades or electro-shock weapons (Appendix 1). The European countries are one of the major manufacturing and supply regions for such weapons. Only the North American region has more companies. Within the EU, a total of 11 countries were identified as having companies which manufacture, supply or distribute crowd control weapons. Of these, France, Germany and the United Kingdom were identified as the major centres of proliferation.

Appendix 7 illustrates that the deployment and use of crowd control weapons is a worldwide phenomenon with chemical irritants, such as 'tear gas' deployed and used in at least 110 countries worldwide, kinetic energy weapons (plastic bullets) used in 33 countries, water cannon in 35 countries and at least 29 countries deploying hand-held stun batons. The military, security, police (MSP) forces in all of the countries identified will have legitimate crowd control requirements. However, what is of concern is that MSP forces in 33 of the countries were identified as having used chemical irritants in circumstances when serious injuries or deaths had occurred (See Appendix 5) and that MSP forces in 47 countries used 'less lethal' weapons in conjunction with lethal weapons (See Appendix 6). In many of these countries the use of crowd control weapons facilitated serious human rights violations. (See Section 8 for examples).

#### **4. Trends.**

##### **4.1 Export controls.**

From the analysis of both the (few) EU country survey responses and additional research it is clear that there are major inconsistencies between the export controls placed on crowd control weapons by different EU states.

For example, the United Kingdom places export licence requirements on all of the crowd control weapon technologies discussed in this report, either through the Military List or Paramilitary List of the Export of Goods (Control) Orders. However, other EU countries have few controls on what are described as “police or security” technologies or omit certain types of weapon from their export control regulations. For example, Eire requires export licences for the chemical irritants CS and CN but does not require licences for the export of CR or OC (Pepper Spray). It has been reported that France does not require export licences for police and security equipment unless they fall under the “war materials” category. Tear gas grenades, canisters etc are only considered “war materials” when the content of CS chemicals is greater than 20%. In other words, if a French chemical irritant manufacturer limits the CS chemical content to 19% or below then an export licence is not required. There also appears to be ambiguity within the Belgian exporting process in relation to crowd control weapons. Whilst such weapons are allowed for police use, they are banned for civilian use. However, it is unclear whether the Belgian authorities are currently placing any controls on the brokering of such weapons through Belgian ports.

Such inconsistencies or loopholes in the export licensing of crowd control weapons by EU countries raise serious concerns. Such loopholes raise the possibility that, despite the EU Code of Conduct on Arms transfers, such weapons will continue to be exported to countries where they are used to facilitate human rights violations.

#### **4.2 Independent medical or health and safety evaluations.**

Of the European governments that responded to the survey only Sweden reported that it had undertaken its own research into the biomedical effects and safety issues of Chemical Irritants and/or Kinetic Energy munitions. It also reported that this research was only undertaken after deployment. Four other European countries reported that either they had not carried out such research, or that the Ministries were unaware of such research. Given one of the original recommendations of the 1973 United Kingdom Himsworth committee report was that new chemical irritants should be treated as if they were new medical drugs it is of concern that several European Union member countries have deployed such agents without, it would appear, having undertaken adequate testing. It would be hard to envisage such a situation being allowed to occur with medical drugs. It seems sensible to suggest that the precautionary principle should operate and that health & safety testing of such irritants should be consistent across the European Union. (See Section 4.4.1 for further discussion of the Himsworth committee report).

**Table 1. Responses to Less-Lethal weapons survey.**

		Departments				
Country	Response	Defence	Health	Home Office / Interior	Foreign Office / State	Trade / Commerce
Austria	None					
Belgium	None					
Denmark	Partial	√	√			
Finland	Pending					
France	Partial		√			
Germany	None <sup>1</sup>					
Greece	None					
Ireland	Almost complete	√	√	√		√
Italy	Pending					
Luxembourg	Partial			√		
Netherlands	None					
Portugal	None					
Spain	None					
Sweden	Almost complete	√	√	√		√
United Kingdom	None					
	Totals (15)	4	3	3	0	2
Non EU.						
Country	Response	Defence	Health	Home Office / Interior	Foreign / State	Trade / Commerce
Armenia	Partial			√		
Bangladesh	Partial			√		
Barbados	Pending					
Brunei	Partial		√	√		

<sup>1</sup> "According to the German authorities, the detailed information in the form requested is not held centrally and could only be obtained at disproportionate cost. I enfored you by phone (voice mail) of this situation in February this year". Embassy of the Federal Republic of Germany, London. Telefax 6<sup>th</sup> April 2000.

**Table 1. Responses to Less-Lethal weapons survey.**

Country	Response	Departments				
		Defence	Health	Home Office / Interior	Foreign Office / State	Trade / Commerce
Bolivia	Pending					
Brazil	Pending					
Burundi	Partial		√			
Cameroon	Partial		√			
Colombia	Partial	√		√		
Cote D'Ivoire	Pending					
Cyprus	Partial	√	√			
Czech Republic	Partial		√	√		√
El Salvador	Partial	√				
Fiji	Partial			√		
Guyana	Pending					
Hungary	Partial	√	√			√
Jamaica	Partial					√
Lebanon	Pending					
Lithuania	Partial	√				
Malta	Partial	√	√			√
New Zealand	Almost complete	√	√	√		√
Paraguay	Pending					
Poland	Pending					
Qatar	Partial		√	√		
Saint Christopher & Nevis	Partial		√			
Slovak Republic	Partial	√		√		√
Slovenia	Partial			√		√
Sudan	Pending					
Switzerland	Pending					
	Totals (156)	8	10	10	0	7

**Less-than-lethal weapon survey To Department of Trade / Commerce Departments**

**Amnesty International UK  
Military, Security and Police Working Group**

1. Is the export of Chemical Irritants such as Tear Gas (CS, CN, CR and Pepper Spray/OC) and Kinetic Energy (KE) munitions and weapons such as plastic, wooden and rubber bullets, baton rounds controlled by legislation?

Yes [ ] No [ ] Don't know [ ]

If yes, please provide details of the relevant legislation and control categories or Codes.

If an export licence is required does your Ministry provide data on the number of export licences granted (or refused), the manufacturer or supplier granted the licence, the amounts exported, end-use destination and end-user?

Yes [ ] No [ ] Don't know [ ]

If yes, is such data publicly available ?

Yes [ ] No [ ] Don't know [ ]

If yes, please send details for the last 5 years ?

Have other organisations, individuals or non-governmental organisations (NGOs) raised concerns with your Ministry relating to the use and deployment of such weapons that are exported from your country ?

Yes [ ] No [ ] Don't know [ ]

If yes, please provide details.

Thank you very much for participating in this survey.

## Less-than-lethal weapon survey To Foreign Office / State Departments

### Amnesty International UK Military, Security and Police Working Group

1. Is the export of Chemical Irritants such as Tear Gas (CS, CN, CR and Pepper Spray/OC) and Kinetic Energy (KE) munitions and weapons such as plastic, wooden and rubber bullets, baton rounds controlled by legislation?

Yes [ ] No [ ] Don't know [ ]

If yes, please provide details of the relevant legislation and control categories or Codes.

If export licences or other government approval is required for the export of such weapons and munitions is your Ministry involved in the approval procedure ?

Yes [ ] No [ ] Don't know [ ]

If yes, does your Ministry have human rights criteria that are taken into account before approval for export is granted ?

Yes [ ] No [ ] Don't know [ ]

Has your Ministry refused an export licence or Chemical Irritants or Kinetic Energy munitions or weapons because of human rights concerns in the destination country ?

Yes [ ] No [ ] Don't know [ ]

If yes, please provide details.

Has your Government ever undertaken an official inquiry into the use of Chemical Irritants or Kinetic Energy munitions and weapons ?

Yes [ ] No [ ] Don't know [ ]

If yes, please provide details of any such reports and their recommendations.

Have other organisations, individuals or non-governmental organisations (NGOs) raised concerns with your Ministry relating to the use and deployment of such weapons exported from your country ?

Yes [ ] No [ ] Don't know [ ]

If yes, please provide details.

Thank you very much for participating in this survey.



**Less-than-lethal weapon survey To Health Ministries**

**Amnesty International UK  
Military, Security and Police Working Group**

1. Does your Ministry have a standard reporting procedure for recording injuries or fatalities caused by Chemical Irritants (CS gas, Pepper Spray/OC etc) and Kinetic Energy (KE) munitions and weapons (plastic, wooden and rubber bullets, baton rounds etc)?

Yes [ ]                      No [ ]                      Don't know [ ]

If yes, is such data publicly available ?

Yes [ ]                      No [ ]                      Don't know [ ]

Please send us details.

Has your Government ever undertaken an official inquiry into the use of Chemical Irritants or Kinetic Energy munitions and weapons ?

Yes [ ]                      No [ ]                      Don't know [ ]

If yes, please provide details of any such reports and their recommendations

Thank you very much for participating in this survey.

**Less-than-lethal weapon survey To Home Office / Ministries of Interior  
Amnesty International UK  
Military, Security and Police Working Group**

1. Do your country's police and security forces have access to:

a) Chemical Irritants ? (Please tick all that apply)

CS [ ]      CN [ ]      CR [ ]      OC [ ]      PAVA [ ]

Others .....

b) Kinetic Energy munitions or weapons ? (Please tick all that apply)

Plastic bullets / batons      [ ]      Rubber bullets [ ]  
Wooden batons      [ ]      Riot guns      [ ]

Others .....

If yes, please provide details of each type of chemical irritant, kinetic energy munitions and their launching devices.

Are these munitions and weapons manufactured in your country or imported ?

Own country manufacture [ ]      Imported [ ]

If imported, from which country ? .....

If your forces do not currently have access to such munitions and weapons are you planning to acquire and equip your forces with such weapons at a future date ?

Yes [ ]      No [ ]      Don't know [ ]

If yes, please provide details.

Is the use of such Chemical Irritants and Kinetic Energy munitions and weapons controlled by legislation or government guidelines ?

Yes [ ]      No [ ]      Don't know [ ]

If yes, please supply details of relevant legislation and/or guidelines.

Have any members of the police or security forces been prosecuted or discipline for the use of Chemical Irritants or Kinetic Energy munitions or weapons that contravened such legislation or guidelines ?

Yes [ ]      No [ ]      Don't know [ ]

If yes, please provide statistical and case data.

Does your Ministry record data on the number of Chemical Irritants and Kinetic Energy munitions and weapons deployed and used ?

Yes [ ] No [ ] Don't know [ ]

If yes, is this data made public ?

Yes [ ] No [ ] Don't know [ ]

Please supply copies of this data for the last five years.

Have your forces been provided with training in the use of Chemical Irritants and/or Kinetic Energy munitions and weapons ?

Yes [ ] No [ ] Don't know [ ]

If yes, was this training provided by your own personnel, manufacturers representatives or by foreign personnel ?

Own personnel [ ] Manufacturers Representatives [ ]  
Foreign personnel [ ]

Does such training include instruction in the possible health and safety risks ?

Yes [ ] No [ ] Don't know [ ]

If yes, please provide details of such training.

Has your Ministry undertaken research into the biomedical effects and safety issues of Chemical Irritants and/or Kinetic Energy munitions and weapons ?

Yes [ ] No [ ] Don't know [ ]

If yes, is this research publicly available ?

Yes [ ] No [ ] Don't know [ ]

Please provide details and copies of such research.

Was this research undertaken before or after deployment of such weapons ?

Before deployment [ ] After deployment [ ]

If your Ministry used external biomedical and safety research, was independent evaluation of this research undertaken ?

Yes [ ] No [ ] Don't know [ ]

If yes, is this independent evaluation publicly available ?

Yes [ ] No [ ] Don't know [ ]

Please provide details and copies of any such evaluations.

Does your government's legislation class any of the following equipment as weapons ?

a) Chemical Irritants ? (Please tick all that apply)

CS [ ]      CN [ ]      CR [ ]      OC [ ]      PAVA [ ]

Others .....

b) Kinetic Energy munitions or weapons ? (Please tick all that apply)

Plastic bullets / batons      [ ]      Rubber bullets [ ]  
Wooden batons      [ ]      Riot guns      [ ]

Others .....

Are such munitions and weapons available for use by civilians ?

Has your Government ever undertaken an official inquiry into the use of Chemical Irritants or Kinetic Energy munitions and weapons ?

Yes [ ]      No [ ]      Don't know [ ]

If yes, please provide details and copies of any such reports and their recommendations

Have other organisations, individuals or non-governmental organisations (NGOs) raised concerns with your Ministry relating to the use and deployment of such weapons exported from your country ?

Thank you very much for participating in this survey.

**Less-than-lethal weapon survey To Ministries of Defence**

**Amnesty International UK  
Military, Security and Police Working Group**

1. Do your forces have access to:

a) Chemical Irritants ? (Please tick all that apply)

CS [ ]      CN [ ]      CR [ ]      OC [ ]      PAVA [ ]

Others .....

b) Kinetic Energy munitions or weapons ? (Please tick all that apply)

Plastic bullets / batons      [ ]      Rubber bullets [ ]  
Wooden batons      [ ]      Riot guns      [ ]

Others .....

If yes, please provide details of each type of chemical irritant, kinetic energy munitions and their launching devices.

Are these munitions and weapons manufactured in your country or imported ?

Own country manufacture [ ]      Imported [ ]

If imported, from which country ? .....

If your forces do not currently have access to such munitions and weapons are you planning to acquire and equip your forces with such weapons at a future date ?

Yes [ ]      No [ ]      Don't know [ ]

If yes, please provide details.

Does your Ministry record data on the number of Chemical Irritants and Kinetic Energy munitions and weapons deployed and used ?

Yes [ ]      No [ ]      Don't know [ ]

If yes, is this data made public ?

Yes [ ]      No [ ]      Don't know [ ]

Please supply copies of this data for the last five years.

Have your forces been provided with training in the use of Chemical Irritants and/or Kinetic Energy munitions and weapons ?

Yes [ ] No [ ] Don't know [ ]

If yes, was this training provided by your own personnel, manufacturers representatives or by foreign personnel ?

Own personnel [ ] Manufacturers Representatives [ ]  
Foreign personnel [ ]

Has your Ministry undertaken research into the biomedical effects and safety issues of Chemical Irritants and/or Kinetic Energy munitions and weapons ?

Yes [ ] No [ ] Don't know [ ]

If yes, is this research publicly available ?

Yes [ ] No [ ] Don't know [ ]

Please provide details and copies of such research.

Was this research undertaken before or after deployment of such weapons ?

Before deployment [ ] After deployment [ ]

If your Ministry used external biomedical and safety research, was independent evaluation of this research undertaken ?

Yes [ ] No [ ] Don't know [ ]

If yes, is this independent evaluation publicly available ?

Yes [ ] No [ ] Don't know [ ]

Please provide details and copies of any such evaluations.

Has your Government ever undertaken an official inquiry into the use of Chemical Irritants or Kinetic Energy munitions and weapons ?

Yes [ ] No [ ] Don't know [ ]

If yes, please provide details and copies of any such reports and their recommendations

Have other organisations, individuals or non-governmental organisations (NGOs) raised concerns with your Ministry relating to the use and deployment of such weapons exported from your country ?

Thank you very much for participating in this survey.

**Amnesty International UK**  
**Military, Security and Police Working Group**

1. Does your company manufacture, distribute or supply Chemical Irritant products such as CS, CN, CR, OC (Pepper Spray), PAVA ? (Please tick all that apply).

CS [ ]      CN [ ]      CR [ ]      OC [ ]      PAVA [ ]

Others .....

If yes, please provide copies of brochures and product catalogues.

2. Does your company, distribute or supply Kinetic Energy munitions or weapons such as Plastic, Rubber or Wooden baton rounds, plastic bullets or Multi Purpose Riot Guns ? (Please tick all that apply).

Plastic bullets / batons      [ ]      Rubber bullets [ ]  
Wooden batons      [ ]      Riot guns      [ ]

Others .....

If yes, please provide copies of brochures and product catalogues.

3. Does your company provide training manuals for such weapons ?

Yes [ ]      No [ ]      Don't know [ ]

If yes, are these manuals publicly available ?      Yes [ ]      No [ ]

Please provide copies of the manuals.

4. Does your company provide training courses in the use of Chemical Irritants and/or Kinetic Energy munitions and weapons ?

Yes [ ]      No [ ]      Don't know [ ]

If yes, is this training provided in-country or in third countries ?

Yes [ ]      No [ ]      Both [ ]

Please supply details of training courses provided ?

5. Has your company undertaken scientific studies into the biomedical effects and safety issues relating to the use of Chemical Irritants and/or Kinetic Energy munitions and weapons ?

Yes [ ]      No [ ]      Don't know [ ]

If yes, are these studies publicly available ?      Yes [ ]      No [ ]

Please provide details or supply copies of such studies.

6. Does your government require your company to apply for an export licence or other government approval for the export of Chemical Irritants and/or Kinetic Energy munitions and weapons ?

Yes [ ] No [ ] Don't know [ ]

If yes, please provide details or licensing or approval requirements.

7. Has your company ever been refused an export licence application ?

Yes [ ] No [ ] Don't know [ ]

If yes, please provide details.

8. Are your products available to the public in your country ?

Yes [ ] No [ ] Don't know [ ]

9. Does your company export Chemical Irritants and/or Kinetic Energy munitions and weapons ?

Yes [ ] No [ ] Don't know [ ]

If yes, please supply details of quantities, destination countries and end-users.

10. Would your company cease to export Chemical Irritants and/or Kinetic Energy munitions and weapons if it was shown that Military, Security, Police forces had misused/abused your products ?

Yes [ ] No [ ] Don't know [ ]

11. Has your government ever undertaken an official inquiry into the use of Chemical Irritants or Kinetic Energy munitions and weapons ?

Yes [ ] No [ ] Don't know [ ]

If yes, please provide details of any reports and their recommendations

Thank you very much for participating in this survey.





**APPENDIX 3.**

<b>APPENDIX 3. TABULAR SUMMARY OF LESS LETHAL WEAPONS AND TECHNOLOGIES.</b>				
<b>Weapon</b>	<b>Mechanism</b>	<b>Function</b>	<b>Hazards</b>	<b>Notes</b>
Impact Munitions				
Rubber Baton Round 37/38mm	Cartridge loaded with one solid slug, various weights and levels of pyrotechnic charge	Ricochet fired off ground to hit lower area of targets body	Potentially lethal at close range. Indiscriminate due to random impact pattern. Can cause blinding and blunt trauma wounds.	1
Wooden Baton Round 37/38mm	Cartridge loaded with one wooden slug, can be weighted with metal core.	Direct fired at target	Splintering wood can cause penetrating wounds	2
Plastic Baton Round 37/38mm	Medium and long range rounds with differing charges	Direct firing at individual target gives greater range and accuracy than rubber baton	Greater hardness of PVC causes greater lethality and injury	3
Multi Baton Wood, Rubber or PVC 37/38mm	Variety of products available - from two to eight projectiles per cartridge	Designed to be fired at groups	Less accurate, more likelihood of innocent bystanders being hit	4
Rubber Ball Round	Multiple small rubber balls	For group targeting - sometimes	Smaller projectiles lead to	5

**APPENDIX 3. TABULAR SUMMARY OF LESS LETHAL WEAPONS AND TECHNOLOGIES.**

Weapon	Mechanism	Function	Hazards	Notes
37/38mm / Sting Round	packed into cartridge or a grenade	described as a diversionary device	greater chance of soft tissue penetration wounds	
Rubber Segment Round 40mm	Rubber round segmented lengthwise - opens out to form a cross in flight	Targets individual but spreads impact energy over a wider area	Munition could break apart or fail to open causing penetrating injury	6
12 Gauge Rounds	Wide variety of rubber, wood and plastic rounds, single, multi and multi ball rounds	Allows very wide range of ammunition to be fired at individuals or crowds	Lethal at short range	7
Coated Metal Bullet	Metal bullet coated with a layer of plastic or rubber	Can be fired from standard rifle and because of accuracy can be targeted at individuals	Lethal at most ranges, especially when targeted at upper body or head	8
Jelly baton	Plastic outer casing with soft core - 200ft/lb impact energy	Targeting of individual	High impact energy in severe damage range	9
Bean Bag	Cartridge loaded with a nylon or cloth bag containing lead shot - various weights available	Impact likened to that of a hard hit baseball. Machine gun version firing 250 rounds per minute available.	High probability of serious injury at close ranges or if fired at head or neck, penetrating wounds can occur if bag bursts	10
Sting Rag - solid ring aerofoil round	Hard plastic annulus with aerofoil section launched spinning from a grenade launcher	Use up to 50-100m imparts a sharp stinging pain - CS option available	Penetrating wounds if projectile breaks or targeted at head	11

**APPENDIX 3. TABULAR SUMMARY OF LESS LETHAL WEAPONS AND TECHNOLOGIES.**

Weapon	Mechanism	Function	Hazards	Notes
Flash Ball 44mm	Squash ball sized hard rubber balls - deform on impact	Targeting of individuals up to 12 metres - likened to a heavy weight boxers punch, or the stopping power of a .38 special.	Potentially lethal if fired at head or neck	12
Kraken Tennis Ball Gun	Single shot weapon firing commercial tennis balls, easily converted to fire other munitions	Targeting of individuals and groups.	Potentially lethal at close range if fired at head	13
Slingshot Rubber Bullet Thrower	Vehicle mounted weapon, 170 rounds/min	For crowd dispersal from safety of armoured vehicle	Inaccurate and indiscriminate fire from vehicle	14
Capture Nets	A light filament net is fired from a weapon, expanding in flight to ensnare the subject, can be electrified, laced with chemicals or barbed hooks	Designed to ensnare the subject and allow capture or incapacitate	Danger of injury from cuts if filament too fine or possible choking.	15
Sound / Light	Very loud bang with very bright flash causes temporary disorientation, can be fragmenting or non fragmenting	Use indoors for disorientation prior to secondary action or outdoors as crowd dispersal	Risk of permanent deafness. Pyrotechnic nature of device can cause fires or shrapnel wounds.	16
Water Weapons				
Water Cannon	Vehicle mounted weapon fires a stream of water -	To disperse crowds at ranges up to 30m by knocking them down or	High pressure jets can produce serious injury, particularly if	17

**APPENDIX 3. TABULAR SUMMARY OF LESS LETHAL WEAPONS AND TECHNOLOGIES.**

Weapon	Mechanism	Function	Hazards	Notes
	many variants in size, pressure and volume delivered	causing soaking and discomfort	directed at already supine body or fired at head and eyes	
Pulsed Jet Water Cannon	Delivers “bullets” of water at high pressure	Extends service time between fills, less water wastage, more accurate	Higher pressure and more accurate delivery leads to greater injury potential	18
Water Gun	From 0.25 litre to 5 litres, or more, of water shot out under higher pressure than pulsed jet.	Enables a single person to be an effective water canon	Higher pressure of water raises possibility of injury	19
Water Cannon with Chemical Irritant (usually CS or CN)	Chemical irritant held in separate tanks and added to water stream automatically	Greatly augments water cannon effects by causing intense pain in the eyes and on skin	Water Cannon hazards combine with chemical irritant hazards	20
Water Cannon with Marker Dye	Coloured or UV dye added automatically from separate tank	Allows for dispersal of crowd and possible later identification and arrest of those sprayed	Water cannon hazards and allows for indiscriminate targeting and punishment of anyone marked	21
Water Cannon with Electrified Stream	Liquid stream electrified by battery/electronics pack produces painful electric shock	Allows individuals to be paralysed at a distance	Water cannon hazards combine with electro-shock hazards	22
Chemical Weapons				

**APPENDIX 3. TABULAR SUMMARY OF LESS LETHAL WEAPONS AND TECHNOLOGIES.**

Weapon	Mechanism	Function	Hazards	Notes
Chemical Irritants	A wide variety of irritants are available in powder, gel, liquid or foam form.	Variety of effects from irritation, to sickening, to paralysis.	Quantity needed to cause irritation in one subject could be lethal to others, especially those suffering respiratory or heart complaints or when used in confined / closed areas. Can cause sensitisation of individual. Deaths have occurred with chemical irritants.	
CN	1-Chloroacetophenone	A lacrimator that causes irritation to the upper respiratory passages and may cause irritation to the skin	Has been linked to deaths when used in conjunction with other restraint	23
CS	2-Chlorobenzylidene malonitrile	Intense stinging, burning of eyes, skin, nose, throat, lungs	Has been linked to at least one death in the UK	24
CR	Dibenz-1,4-oxazepine	Eye pain, discomfort and excessive tearing with painful sensitivity to light	Potential hysteria due to blinding effect. Long term effects not yet known	25
OC	Oleoresin Capsicum	Intense burning and discomfort of mucous membranes	Has been linked to deaths in the USA	26
PAVA	Nonivamid	Same effects as OC	As above for OC	27
BZ	3-quinuclidinyl benzilate	A calmative agent, induces delirium	Creates catatonia, homicidal tendencies and death	28

**APPENDIX 3. TABULAR SUMMARY OF LESS LETHAL WEAPONS AND TECHNOLOGIES.**

Weapon	Mechanism	Function	Hazards	Notes
DM	Diphenylaminearsine	A sickening agent causing sneezing, shortness of breath, retching, vomiting, haemorrhaging and possibly death	No longer used because of long term health risks	29
Dispersal Options for chemical irritants			Designed for use in calm conditions, against standard rioter - conditions during usage (wind, rain etc) mean that larger doses are often delivered or innocent bystanders are caught	
Hand held aerosol	Variety of sizes from key-ring to large fire extinguisher, volume up to 2 litres	Small aerosols for engaging a single attacker, larger versions for crowd control with range up to 15m	Spray rate and concentration of irritant lead to delivery of higher levels of irritant being directed at target	30
Backpack Sprayer	Spray unit can be used with powder, gel or liquid. Gel or liquid forms a uni-directional jet	Gel and Liquid range up to 25m	Possibility to vastly overdose an individual. Wide area contamination means individual cannot escape to clean area easily	31
Powder Disperser / Dust Blower	Micro-pulverized irritant blown out by pressurized gas/air	Powder range up to 15m in still air	High concentrations of irritant lead to contamination problems, can be persistent in enclosed spaces for weeks	32

**APPENDIX 3. TABULAR SUMMARY OF LESS LETHAL WEAPONS AND TECHNOLOGIES.**

Weapon	Mechanism	Function	Hazards	Notes
Portable Fogger	CS solution fed into the exhaust of a small petrol powered pulse engine	Uses less irritant to dose an area than dust blower - less decontamination problems	As above	33
Vehicle Mounted Sprayer	Police vehicle, armoured personnel carrier or helicopter mounted unit, range of volumes	Drenches large crowds with high volumes of irritant	As above	34
Launch options for both kinetic and chemical munitions				
Burning type of munition for chemical irritant	Pyrotechnic charge causes agent to be vaporised	Cloud of smoke or vapour disperses rapidly	Heat given off by munition has caused fires	35
Blast type munition	Pyrotechnic charge surrounded by micro-pulverized chemical agent	Cloud of fine irritant dust particles rapidly dispersed	Decontamination problems due to higher concentrations of irritant used. Blast hazards, shrapnel hazard	36
Riot control ammunition	Identical to conventional ammunition with the metal bullet replaced by a variety of loads. A primer charge sets off the main charge	Short or long range dependant on size of propellant charge. Full range of projectile fills available, chemical, kinetic, nets, sound/light, signalling etc	Can be lethal if fired below recommended minimum range. Variance propellant load can lead to unpredictable performance	37



**APPENDIX 3. TABULAR SUMMARY OF LESS LETHAL WEAPONS AND TECHNOLOGIES.**

Weapon	Mechanism	Function	Hazards	Notes
	which propels the projectile from the weapon.			
Hand Thrown Grenade	Wide variety of pyrotechnic products available	Short range option for targeting small groups	Effects of irritant with added danger that the pyrotechnic charge can cause ignition of flammable materials	38
12 Gauge Riot Shotgun	Military grade shotgun, usually with high capacity magazine	Widely used, offers a mix of lethal and non lethal - wide variety of munition available and cheap	Lethal if fired below the recommended minimum range. Possibility of inadvertently mixing lethal and less lethal rounds	39
Rifle Launched Grenade	Special adapter fits to end of muzzle of most rifles, bullet causes grenade to be launched	Longer range option for crowd dispersal	As above for chemical irritant, higher muzzle velocity for kinetic rounds can cause injury	40
Grenade Launcher	37/38mm or 40mm. Single shot weapon can also be mounted under barrel of rifle . Multi shot (up to 6 rounds and higher), or rapid fire machine gun version.	Standard police / security force issue, enables higher launch velocity and longer range for crowd dispersal.	Rapid rates of fire achievable leads to indiscriminate fire	41
Multiple Grenade	Man portable, fired from	Fires individual rounds or salvo	Can drench an area, preventing	42

**APPENDIX 3. TABULAR SUMMARY OF LESS LETHAL WEAPONS AND TECHNOLOGIES.**

Weapon	Mechanism	Function	Hazards	Notes
Launcher	ground, various models available firing up to 12 rounds	fire. Can be positioned and fired from a safe distance, or remotely activated	persons reaching a non contaminated area	
Vehicle Launched	Either mounting a 37/38mm launcher or fixed 60mm grenade launcher is standard	Range 75-120m, ability to tackle large crowds with kinetic or chemical munitions	Indiscriminate firing from vehicle means more likelihood of shots to head	43
Impact Weapons				
Truncheon	Hardwood, rubber or plastic, 2.5 - 4cm diameter, 30-65cm long	One handed use for striking or jabbing	Easily misused, can cause serious injury including brain damage	44
Long Truncheon	Hardwood baton 65-90 cm long	As above, originally introduced for mounted police	As above, its withdrawal has been recommended	45
Long Riot Baton or Lathi	Hardwood or bamboo, sometimes weighted	Used two handed in a riot squad	As for truncheons but greater momentum achievable leads to more severe injury potential	46
Side Handled Baton	Truncheon with a small handle attached at right angles to the shaft about 15 cm from butt	More effective than simple baton, more options for attack and defence, more difficult to be snatched from user	As for truncheon but can generate higher impact energy	47
Expandable Baton - Straight or Side Handled	Telescopic baton which extends easily with a twist action or button - two or	Can be carried concealed. Can be "whipped" due to thinner extension	Danger of head injuries or fractures as a result of excessive force from overarm	48

**APPENDIX 3. TABULAR SUMMARY OF LESS LETHAL WEAPONS AND TECHNOLOGIES.**

Weapon	Mechanism	Function	Hazards	Notes
	three piece is common. Some versions include a hard steel ball at the tip.		action	
Control Batons	Different geometric patterns with multiple side handles or curves	Can be used to grab or manipulate limbs, enable huge force to be applied to control and subdue.	Excessive force easily applied, danger of dislocations, sprains, ripping joints	49
Electrical Weapons				
Stun Gun	Small hand held device delivering shocks of high voltage, low amperage to disable. Voltage up to 300,000 volts	Close proximity incapacitation	Easily abused, widely used for torture. Can affect the heart causing fibrillation.	50
Stun Baton	Hand held baton with stun facility	Combines ability to strike with electroshock at a distance	Easily abused, widely used for torture	51
Shock Shield	Riot shield with stun facility, can be flat, convex or concave	Can pin a subject to a wall and incapacitate	Concave shield can be used to trap a person and can repeatedly shock	52
Taser	Hand held weapon firing darts which deliver an electrical shock	Greater 'stand off' distance between firer and target	Danger of barbs causing penetrating wounds and from electroshock, is reported to cause miscarriages	53

**APPENDIX 3. TABULAR SUMMARY OF LESS LETHAL WEAPONS AND TECHNOLOGIES.**

Weapon	Mechanism	Function	Hazards	Notes

Notes:

- 1) British development for use in Northern Ireland until phased out and replaced by plastic bullets in 1975. Caused the deaths of 3 people and injured countless others.
- 2) Developed by Hong Kong police as a teakwood cylinder just over an inch long. Longer version 7.5 inches by 1.5 inches in diameter weighted with a metal core was developed. At least one person (a girl) was killed by this weapon.
- 3) Developed by the British at Porton Down to replace the Rubber Bullet used in Northern Ireland. Introduced in 1973 plastic bullets have killed 14 people. Now one of the most widespread crowd control weapons used worldwide.
- 4) Used by some US police forces.
- 5) A kinetic energy round which is also used for distraction eg. Combined Tactical Systems Sting Ball.
- 6) Manufactured by Heckler and Koch GmbH, Germany.
- 7) Very wide variety of products available eg chemical irritants, wood, rubber, plastic batons, sting ball rounds, bean bags.
- 8) Used in Israel, a number of versions are available. Rubber bullets (rubber coated metal missiles) have killed at least 50 people and plastic bullets ( bullets made from a composite PVC and metallic fragments) have killed at least 80 people between 1987 and 1997.
- 9) Made and marketed by Crown Aircartridge Ltd / Airmunition International BV, has been tested by National Tactical Officers Association in the USA.
- 10) Made and marketed in USA by eg. MK Ballistic Systems
- 11) Originally developed by US Army in the early 1970's - still marketed and available with a CS gas round.
- 12) Flash Ball made by Verney-Carron, France. Fires a 28g ping-pong sized compressed rubber ball, up to 12m. Very high impact energy. In use in France, Switzerland and USA.
- 13) Manufactured by Policske Strojirny in Poland. Can fire 1 tennis ball projectile or 6 rubber shot projectiles containing 250 rubber shots.
- 14) Manufactured by TFM Pty, South Africa. Extensively used there and available on riot control vehicles for export.
- 15) Capture nets increasingly available and deployed. Made for example by Getec in Germany.
- 16) Called variously sound/light weapon, flash bangs, stun grenades, thunder-flashes, distraction devices, diversionary devices. Thunder-flash stun grenade caused a conflagration in Minneapolis in 1989 leading to the deaths of two people. (Star Tribune, 3/3/89). Possible deafness caused by stun grenades - Socialist Challenge, 2710/77`
- 17) Widely used eg. Germany, Indonesia, Malaysia, Israel. Older type have problem of using water very quickly and being relatively un-maneuvrable.
- 18) Developed in Israel by Hatehof Ltd. Greatly enhances utility of water cannon by allowing "bullets of water" to be fired and smaller vehicles to be used.

- 19) Water gun - Ifex system from Germany - check out use in riot control etc.
- 20) Widely used in Indonesia, Malaysia and Korea.
- 21) Widely used in Germany and Indonesia.
- 22) Developed by Jaycor in the USA as a demonstration, not yet deployed.
- 23) Also known as MACE, widely used in USA, generally superceded by more powerful CS and OC
- 24) Very widely used in huge quantities especially Korea, Malaysia, Indonesia, France.
- 25) CR not widely available although an Indian company offers aerosol mixtures.
- 26) Very widely used in USA, Germany. Available in all types of munition.
- 27) Not widely deployed at present but increasingly available in personal aerosol format.
- 28) Has been reported that BZ was possibly used recently in Bosnia.
- 29) DM Used as a military chemical agent, no longer used.
- 30) Very widely used worldwide especially USA, France, UK.
- 31) Manufactured for example by SAE Alsetex, France.
- 32) Has been used by police in the USA
- 33) Portable Fogger manufactured by Federal Laboratories Inc, USA.
- 34) Widely available on riot control vehicles eg. CCS International, USA , SAE Alsetex, France.
- 35) Burning / pyrotechnic grenades have caused fires in the past for example a thunder-flash stun grenade caused a conflagration in Minneapolis in 1989 leading to the deaths of two people. (Star Tribune, 3/3/89)
- 36) Blast type grenades instantly disperse irritant load stopping the grenade being picked up and thrown back.
- 37) Launched ammunition is widest used type of riot control ammunition. Simple design leads to wider range of launch velocities and hence inconsistency in ammunition.
- 38) Security personnel must be close to rioters to employ these munitions.

- 39) 12 gauge - widely used especially in the US and South Africa.
- 40) Manufactured and deployed worldwide.
- 41) The most commonly deployed riot control delivery system worldwide, design has changed very little in 25 years, though modern weapons have rifled barrels and are available as multi shot weapons eg the five shot Arwen made by Royal Ordnance, UK or the six shot MGL Mark 1, Milkor (Pty) Ltd, South Africa.
- 42) SNPE, France markets a twelve tube launcher the Multijet SR56 Model, Indian Border Security Tear Smoke Unit has developed the multi barrelled Agni Varsha weapon.
- 43) Manufactured very widely and available on very wide variety of riot control vehicles.
- 44) Widely used worldwide, generally replaced in western countries by either extendable batons or side-handled batons.
- 45) Carried by mounted police.
- 46) Widely used by Asian security services.
- 47) Has virtually replaced old truncheon, standard issue to UK police. Excessive impact energy has been recognised as leading to danger of fracturing and long term injury if vulnerable areas are targeted. Has caused at least one death.
- 48) Excessive impact energy can lead to long term injury if targeted at vulnerable areas. (Ref: Assessing the Expandable Side Handled Baton, Police Research Series Paper 11, Home Office Police Research Group, UK, 1993.
- 49) The newest type of baton.
- 50) Stun Gun - widely made in Germany, France, Taiwan, Korea and China
- 51) Stun Baton - widely made in Taiwan, Korea and China
- 52) Stun Shield - can be used for "cell extraction" of prisoners
- 53) Taser - widely used in the USA

**APPENDIX 4**

<b>APPENDIX 4. 2<sup>ND</sup> GENERATION 'LESS LETHAL WEAPONS'</b>				
<b>Weapon</b>	<b>Mechanism</b>	<b>Function</b>	<b>Hazards</b>	<b>Notes</b>
<b>STICK'UMS &amp; SLICK'UMS</b>				
<b>Anti-Traction</b>	Super slippery substances are deployed to prevent movement of people across a designated control zone	Instant banana peel effect is used to create an area denial system where any movement is made either impossible or severely slowed.	Possible injury because of falls or hits from vehicles out of control in the skid pan conditions created by this technology. Likely to effect security forces as well so that dealing with any one injured may be a long delayed process.	
<b>Slippery Barriers</b>	Using instant banana peel technologies on barriers which can't be climbed over.	Creates an effective no-go barrier which can either protect a particular zone or coral people into places where other measures can be deployed against the crowd	Injury to anyone who falls from the barrier.	
<b>CAPTURE SYSTEMS</b>				
<b>Sticky Foam</b>	Gun which shoots out polymer foam which rapidly expands between 35-50 times its original volume. Foam is very sticky and when it hardens, it glues together targets feet and hands to the pavement	Immobilizing equipment for individuals and groups. Foam prevents any movement until a recovery team arrive with the necessary antidote to free trapped subject.	Can cause asphyxiation if the mouth and nose are affected. Might lead to panic in small children and some element of post traumatic stress syndrome in anyone left entombed for any length of time.	



<b>APPENDIX 4. 2<sup>ND</sup> GENERATION 'LESS LETHAL WEAPONS'</b>				
<b>Weapon</b>	<b>Mechanism</b>	<b>Function</b>	<b>Hazards</b>	<b>Notes</b>
<b>Anaesthetic Dart/Pellets</b>	Gas powered gun firing flight stabilized syringe darts containing a range of sleep inducing or paralysis creating effects.	Allows a specific individual to be arrested or immobilised in a crowd. Telescopic sights can make this process surgical and can have a powerful dispersal effect on a crowd who see their ring leaders taken out.	Can't safely be used wherever there is a need for absolutely non-lethal effects. One persons tranquillization shot is another's lethal dose because no control is possible for variations in size, weight, age or medical health.	
<b>Flight Stabilized Capture Nets</b>	Special gun fires a pre-packaged flight stabilized net with expands up to x metres	Net envelopes an individual or small group in a web which stops them fleeing. Variants emerging include lacing the net with either chemicals or electroshock electrodes to enhance incapacitation.	Hazards associated with falling. Associated risks with any particular enhancement including those listed under chemical irritants and electroshock devices if they are deployed as part of the net system	
<b>Bounding NL Munition</b>	Based on existing Volcano mine technology - victim activated - small explosive charge launches a net to from the ground to envelope and capture target.	Can be used to prevent a crowd entering a particular control zone - for example refugees attempting to cross a border. Refinements including the addition of razor blades or chemical irritant to the net.	Any additions of would inflicting mechanisms may lead to inevitable injury if surprise induces flee or panic response.	
<b>CHEMICAL WEAPONS</b>				
<b>Chemical Irritants</b>	Use of replacements for traditional riot agents which are more powerful. Includes vomiting agents such as DM.	Agents which cause eye and respiratory discomfort in addition to CN, CS, CR, OC and PAVA and sprayed on to target by hand held devices or crew served systems or explosive grenades with anti-throw back protection	Hazards associated with toxicity. Each agent needs to be properly assessed on a case by case basis.	

<b>APPENDIX 4. 2<sup>ND</sup> GENERATION 'LESS LETHAL WEAPONS'</b>				
<b>Weapon</b>	<b>Mechanism</b>	<b>Function</b>	<b>Hazards</b>	<b>Notes</b>
<b>Malodorous substances</b>	Powerful stench creating chemicals	Create nausea and revulsion, Can be 'culturally tailored.	Unknown.	
<b>Calmatives</b>	Tranquillising drugs sprayed on to a target via hand held launcher or water cannon. Many of the chemicals being investigated are either anaesthetics (eg.sufentanil and nalefene), reconfigured opiate molecules or members of the fentanyl family and derviatives	DMSO used as a carrier agent to ensure drug is quickly absorbed into the blood stream through skin. A variety of agents are available to put a crowd quickly to sleep and facilitate control, restraint, extraction and removal. Agents currently under consideration include chemicals which attach themselves to particular receptor sites on the brain(eg alpha2-adrenoceptor) including chemicals known only by code, eg EA5302, Etoxadrol, EA5995,EA5955, EA5978).	There is no such thing as a safe chemical calmative particularly in a public order situation where there is little control of amounts of drug disseminated to a varied target group and effects may vary according to age, health and whether or not the individual is on medication or has taken recreational drugs. One persons tranquillization can be another's lethal dose.	
<b>AQUEOUS FOAM</b>				
<b>Crew Served Air/Water Jet</b>	Vehicle platform with jet gun and large storage of pre-mixed foam solution	Prodigious quantities of foam can be distributed which prevents a crowd from being able to organise itself. Chemical irritants such as CR can be added to either punish the crowd or to make a pain barrier to ensure area denial	Damage or injury associated with any disorientation where vehicles and people are moving in conditions of being completely obscured from each other. Excess dosage of chemicals is possible if someone is paralysed in a CR foam where no-one can see the victims to remove and decontaminate them	
<b>DIRECTED ENERGY WEAPONS</b>				
<b>ACOUSTIC</b>	Combustion, explosive or	Resonates human organs causing	Permanent injury to internal organs and	

<b>APPENDIX 4. 2<sup>ND</sup> GENERATION 'LESS LETHAL WEAPONS'</b>				
<b>Weapon</b>	<b>Mechanism</b>	<b>Function</b>	<b>Hazards</b>	<b>Notes</b>
	electrically driven creation of infra-sound frequencies below 20 Hz	disorientation, nausea and involuntary defecation. Can be tuned from less-lethal to lethal creating body cavitation.	death.	
<b>Pyrotechnic Stun</b>	Explosive devices which create a high powered blast wave of sound,	Variation of stun grenades to create maximum disorientation.	Deafness.	
<b>Vortex Ring Gun</b>	Combustion driven ring vortices for impulse or chemical delivery.	Applies vortex ring gas impulses with flash, concussion and less-lethal agents and/or markers to approximate human body resonances. Device can be retrofitted to the MK19-3 automatic grenade launcher	Unknown.	
<b>RADIO FREQUENCY</b>				
<b>(I) Thermal Wall</b>	Can project energy through a wall to raise target human body temperature to 107 degrees F.	Incapacitates human internal bio-regulation by mimicking fever conditions.	Unknown.	
<b>(ii) Microwave</b>	Directed energy weapon system designed to match radio frequency source to interfere with human brain activity at synapse level	Invisible weapons which can immobilise at a distance to create a ghostly hitting effects. Weapon is 'tunable' and can be applied in the so called 'layered defence' approach which grows more lethal at the core.	All the hazards associated with microwave radiation. Highly classified programme and hard data is difficult to access.	

<b>APPENDIX 4. 2<sup>ND</sup> GENERATION 'LESS LETHAL WEAPONS'</b>				
<b>Weapon</b>	<b>Mechanism</b>	<b>Function</b>	<b>Hazards</b>	<b>Notes</b>
<b>OPTICAL</b>				
<b>(i) Isotropic Radiators</b>	Explosive round which yields superheated gaseous plasma to produce a dazzling burst of laser light	Omni-directional laser bright dazzling rounds.	Eye damage	
<b>(ii) UV Laser</b>	Ionizes Air to allow electric shock to be projected over a distance.	Anti-Personnel Beam Weapon which tentanizes human muscle-skeletal tissue to create paralysis via induced electro-shock	Unprotected eye extremely vulnerable to narrow laser beams. Threat of eye damage or blindness. Heart attack problems associated with other forms of induced electro-shock	
<b>KINETIC ENERGY</b>				
<b>NL Crowd Dispersal(M203)</b>	Grenade containing rubber balls fired from M203 Grenade Launcher	Blunt trauma weapon operating like a shotgun but using rubber rather than lead.	Relative hazards depend on muzzle velocity, kinetic energy at target and distance of victim from gun. Exact figures unavailable.	
<b>Foam Batons</b>	37/40mm foam baton fired from a hand held launcher	Transfers energy to a specific target	Meant to be less hazardous than existing kinetic energy weapons but hard date awaits independent scrutiny.	
<b>Sponge Grenades</b>	40 mm M203 munition which has ben designed to have a configuration with more 'give' and lower velocity.	Design of munition is meant to lower both the kinetic energy and the sharp edges which have lead to blinding and scaping wounds from baton rounds in the past.	Evaluation of hazards awaiting technical data.	
<b>Claymore Mine</b>	Less-lethal version of	Can be pre-placed and remotely	Independent confirmation of non-lethal	

<b>APPENDIX 4. 2<sup>ND</sup> GENERATION 'LESS LETHAL WEAPONS'</b>				
<b>Weapon</b>	<b>Mechanism</b>	<b>Function</b>	<b>Hazards</b>	<b>Notes</b>
	military mine which dispenses blunt impact munitions.	activated to protect specific areas.	status is absent. Clearly, if the munition has sufficient kinetic energy to incapacitate there is a maiming potential whose outcomes are uncertain.	
<b>Variable Velocity Guns</b>	Rapid fire rifle/ammunition system that can easily change from lethal and non-lethal modes on a shot to shot basis.	Uses a valve system which can reduce velocity of bullets fired up to 66% on demand to create required less-lethal effect.	No way of ensuring that such devices will not be permanently left on kill option or for the lethal option to be selected by mistake.	
<b>Variable Velocity Ammunition</b>	Dual purpose round which is lethal at high velocity and less-lethal at lower velocity.	Designed to work with a particular rifle, eg a selectable multi-barrel system on an M16 upper receiver.	As above.	

## APPENDIX 5

APPENDIX 5. COUNTRIES DEPLOYING CHEMICAL IRRITANT WEAPONS AND SELECTED INJURIES AND DEATHS ASSOCIATED WITH DEPLOYMENT				
Country	Description	Chemical	Kinetic	Other
Albania	Five minutes before this clash, the police had begun to slowly move away from the part of Terazije near the Albania Palace, and opposition supporters began to fill in that space. The demonstrators began throwing wooden poles and other objects at the police, and then the police cordons rushed at them with tear gas and truncheons. The police used truncheons to brutally attack the demonstrators who did not get away in time, while several women cried and screamed: "Don't beat the children" (Beta news agency. Police and opposition demonstrators clash. December 24, 1996).	Tear gas	Batons	
Argentina	The Cutral Co rebellion reached its highest point with the arrival of some 700 gendarmes who cleared the road with the use of batons, tear gas, dogs and water cannon. They also opened fire on the crowd, killing one 24 year-old woman. [Interpress May 8, 1997].	Tear gas		Water cannon
Bahrain	Bahraini Security Police used force to disperse peaceful gatherings and demonstrations. At least eight citizens were injured because of using rubber bullets, birds-shots and tear gas. Yaqoub (aged 17) was transferred to Bahrain International Hospital due to serious wounds. Haj-Ali Al-Taitoon (aged 50) was beaten by electronic batons that caused him a broken leg. Ali Jassim Al-Qallaf (aged 70) died because of suffocation by tear-gas. It is worth mentioning that 14 citizens were killed during last year's demonstrations. [Ref.: DK 9601231.Date: 23rd Jan. 1996.]	Tear gas	Rubber bullets	Electro-shock batons
Bolivia	Tear gas has been used carelessly in suppressing demonstrations, according to the report, which cites the death of a six-month-old baby exposed to tear gas. Chapare residents have reported gas being fired directly into their homes and at a clinic. Inter Press Service, Americas Watch Scores Coca Eradication Campaign. May 12, 1996]	Tear gas		
Chile	On Sept. 12 PC General Secretary Gladys Marin blamed the government for Varela's death, and demanded that authorities reveal the chemical components of the tear gas used and of the liquid sprayed by police water cannons. Col. Sergio Apablaza, Carabineros operations chief for the Metropolitan Region, said the elements used did not constitute a risk to human health, and that they were not made up of chemical but rather organic ingredients, such as pepper and garlic extracts. [EM 9/13/98]	Tear gas		Water cannon
Dominican Republic	Adolescent Marlene Santana died on Oct. 23 of asphyxia from exposure to tear gas used by police against protesters in the capital's Maria Auxiliadora neighborhood. [El Diario-La Prensa (NY) 10/23/97 from EFE, AFP, 10/24/97 from AFP, 10/25/97 from correspondent]  A number of children and elderly people were hospitalized with symptoms of asphyxia from police tear gas. [El Diario-La Prensa (NY) 9/9/97 from EFE, 9/10/97 from correspondent, 9/11/97 from EFE, AP]	Tear gas		
Ecuador	169. Rodrigo Elicio Muñoz Arcos, Luis Artemio Muñoz Arcos, Segundo Hilarión Morales Bolaños and José Vicente	Tear gas		

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Country	Description	Chemical	Kinetic	Other
	Morales Rivera, all Colombian nationals, were arrested on 26 August 1993 in the town of Tulcán, Carchi province, by the police and taken to the local Office for the Investigation of Offences. For 13 days they were allegedly held incommunicado and subjected to various forms of torture, including beatings and suffocation by a plastic bag placed over the head into which tear gas was pumped. The presence of injuries was reportedly confirmed by two doctors who visited the detainees at the Social Rehabilitation Centre to which they had been transferred on 7 September 1993. [UN Commission on Human Rights - Torture - Special Rapporteur's Report (Jan 95)]			
Egypt	191. Ihab Abdel-Maqsoud was allegedly assaulted in prison on his left arm with a leather instrument, subjected to electric shocks causing injury to his neck, had tear gas canisters hurled at him and was beaten with canes (forensic report 220/1993). The Government replied that the medical report indicated that the abrasion observed on his forearm had been caused by the frictional impact of some type of hard, blunt object that might have been a leather belt as alleged in the defendant's statement and might have occurred on the date alleged. The court in Military Felony Case 24/1993 studied the report and decided to sentence him to a term of three years' imprisonment. [UN Commission on Human Rights - Torture - Special Rapporteur's Report (Jan 95)]	Tear gas		electro shocks
El Salvador	A tense stand-off erupted in bloodshed when National Civilian Police (PNC) agents who were called to the scene stormed the office. At the time, AEGES was meeting with representatives of the Human Rights Advocate's Office and the U.N. mission MINUSAL to negotiate the release of those being detained. Talks were proceeding well, several hostages were freed, and the Human Rights Office had just requested more time before police intervention.  Police ignored the plea. Using tear gas, pepper spray and rubber bullets, the police forced the 200 ex-combatants out of the building. Sixty-four bullets hit a single demonstrator, fifty year-old army veteran Francisco Loza, who remains seriously injured. Police also shot Rene Antonio Pineda at point blank range through the heart, killing him. The PNC arrested thirty of the protesters. After three days in jail, they were released without charges due to lack of evidence. (El Salvador Watch, January 1996, Number 45).	Tear gas Pepper Spray	Rubber bullets	
Georgia	In Tbilisi, Georgia, there are many casualties when a large nationalist demonstration in front of Government House is dispersed in the early hours of the morning by Army and other troops: 16 people dead on the streets and 3 subsequent deaths among the approx 1000 people hospitalized.[1] Several dozen people, some in a serious condition, are admitted to hospital with symptoms of poisoning.[3] During the next four weeks between 3000 and 4000 people require medical attention.[4] A physician who had initially treated victims reportedly tells a meeting of the Georgian Academy of Sciences on 14 April that soldiers had used nerve gas contained in canisters and aerosol containers: "We were at a loss on how to treat them...I don't know the compound used in the gas". [5] The local Army command states that its troops could not have used chemicals since they were not included in the table of organization of the Soviet Army's arsenal. However, a spokesman for the USSR Ministry of Internal Affairs (MVD) says that MVD internal forces had used tear gas in two places.[6] The Georgian SSR Minister of Health tells Izvestiya that clinical data showed that chemicals "with an irritant, atropinic-type action" had been used to disperse the demonstrators.[7] The MVD later describes what had been used as "a special kind of tear gas that is used by forces for preserving order in many countries of the world".[8] A senior MVD officer identifies it as 'Cheremukha' [bird-cherry], a substance based on chloroacetophenone [known in the West as CAP or CN] that is irritant but which does not, he said, cause poisoning or asphyxiation; 27 cartridges of it had been used.[9] On 24 April the newly appointed leader of the Georgian Communist Party speaks as follows to the press:	Tear gas		

**APPENDIX 5. COUNTRIES DEPLOYING CHEMICAL IRRITANT WEAPONS AND SELECTED INJURIES AND DEATHS ASSOCIATED WITH DEPLOYMENT**

Country	Description	Chemical	Kinetic	Other
	<p>"It has been established that tear gas was used. And a second type of gas was also used. There are cases of poisoning, and some people died." [10] A member of the Georgian investigatory commission said that at least 60 of the people still in hospital were suffering effects of the gas, including sharp headaches, vomiting, skin rashes and amnesia; [11] by this time large numbers of additional people were complaining of gas-poisoning and were seeking (and being given) medical aid; [12] these late casualties suggesting the involvement of delayed-action as well as instant-action chemicals; [13] Another commissioner spoke of there being unconfirmed evidence that up to 14 of the fatalities were due to gas; [14] but autopsy findings are later said by a USSR Government official to have excluded chemicals as the cause of any of the deaths. [15] On 4 May a USSR Ministerial Commission states that "modified" tear gas had been employed, a Foreign Ministry spokesman telling the press that it was a "modified version" of the tear gas generally used by MVD forces and which could not cause deaths in the open air. [16] Later, the Georgian investigatory commission is told by one of its subcommissions that laboratory test results suggested that the second, unidentified gas was CS [17] (which is known as K-51 in the Soviet Union).</p> <p>[1] Zarya Vostoka (Tbilisi), 11 Apr 89, pp 1 &amp; 3, '[Announcement by Georgian Communist Party Central Committee and the Republic's Supreme Soviet Praesidium and Council of Ministers]', as translated from the Russian in FBIS-SOV-89-077 of 24 Apr 89, pp 56-58; Argumenty i Fakty (Moscow), 22-28 Apr 89, p 8, as translated in FBIS-SOV-89-080 of 27 Apr 89, p 63; Anatoly Sobchak, [Tbilisi Syndrome, or Bloody Sunday 1989], Moscow, 1993, pp 223-4. [2] Agence France-Presse from Moscow, 1147 hrs GMT 12 Apr 89, as in FBIS-SOV-89-070 of 13 Apr 89, pp 42-43. [3] Irina Inovelis, Zarya Vostoka (Tbilisi), 19 Apr 89, p 3, '[Reportage from first session of the Georgian Soviet Socialist Republic Supreme Soviet commission to investigate the circumstances of the events that took place in Tbilisi 9 April]', as excerpted in FBIS-SOV-89-080 of 27 Apr 89, pp 62-63. [4] Anatoly Sobchak, [Tbilisky Syndrome, or Bloody Sunday 1989], Moscow, 1993, pp 223-4. [5] AP from Moscow, as in Baltimore Sun, 19 Apr 89, p 2, 'Doctor reports use of nerve gas in Tbilisi clashes'. [6] G Lebanidze and A Chernenko (from Tbilisi), Pravda (Moscow), 19 Apr 89, p 6, '[Rumours diminishing]', as translated in FBIS-SOV-89-075 of 20 Apr 89, pp 53-54; N Belan (from Tbilisi), Krasnaya Zvezda, 20 Apr 89, p 4, '[Tbilisi: situation returning to normal]', as excerpted in FBIS-SOV-075 of 20 Apr 89, p 57. [7] V Arsenyev and Yu Orlik (from Tbilisi), Izvestiya, 20 Apr 89, p 3, '[Life returning to normal]', as excerpted in FBIS-SOV-89-075 of 20 Apr 89, pp 56-57. See also: Bill Keller (from Moscow), New York Times, 20 Apr 89, pp A1 &amp; A13, 'Soviets report use of toxic gas in putting down strife in Georgia'. [8] USSR MVD press service, as reported in Argumenty i Fakty (Moscow), 22-28 Apr 89, p 8, as translated in FBIS-SOV-89-080 of 27 Apr 89, p 63. [9] N Belan (from Tbilisi), Krasnaya Zvezda, 22 Apr 89, p 6, '[On the situation in Tbilisi]', as translated in FBIS SOV 89-077 of 24 Apr 89, pp 63-64. [10] Robin Lodge (in Tbilisi), Reuter dispatch as in Daily Telegraph (London), 25 Apr 89, p 7, 'Georgia leader admits gas killed Tbilisi protesters'. [11] Reuter from Tbilisi, as in Washington Post, 25 Apr 89, 'Leader in Soviet Georgia says gas killed some protesters'. [12] Zarya Vostoka (Tbilisi), 21 Apr 89, p 3, '[Irakli Menagarishvili: "The fact of the poisoning is indisputable"]', as translated from the Russian in FBIS-SOV-89-086 of 5 May 89, p 38. [13] Zarya Vostoka (Tbilisi), 25 Apr 89, p 3, '[Georgia's journalists demand!]', as translated in FBIS-SOV-89-088 of 9 May 89, pp 63-64. [14] AP from Tbilisi, as in New York Times, 25 Apr 89, p A6, 'Gas killed Georgian protesters, Republic's party chief confirms'. [15] USSR Foreign Ministry spokesman Vadim Perfiliev as reported by AP from Moscow, as in Washington Times, 27 Apr 89, 'Soviets launch investigation into tear gas use in Georgia'. [16] Gennadiy Gerasimov, as reported by AFP from Moscow, as in International Herald Tribune, 5 May 89, p 2, 'Soviets blame tear for deaths'.</p>			
Greece	Police chief suspended: Greek Public Order Minister Stelios Papatthemelis suspended the heads of the Attica and Athens police after a demonstration of old age pensioners was broken up by riot police using tear gas. The Minister	Tear gas		



**APPENDIX 5. COUNTRIES DEPLOYING CHEMICAL IRRITANT WEAPONS AND SELECTED INJURIES AND DEATHS ASSOCIATED WITH DEPLOYMENT**

Country	Description	Chemical	Kinetic	Other
	apologised and condemned the police violence. The pensioners had tried to break through a police cordon outside the Prime Minister's official residence. (Balkan News, 19.3.95)			
Guatemala	Two of the buses got through the crowd, but the campesinos reportedly stopped the third bus, forced the agents out and beat them with sticks, rocks and machetes. The police retaliated with tear gas and gunfire; campesino Miguel Sol was shot to death. [La Republica (Peru) 9/7/97 from AFP]  A team sent by the Consultative Assembly of Displaced People (ACPD) to investigate the incident said Xol of the community Tierra Blanca succumbed to tear gas poisoning and was then shot point blank by a Treasury Police agent. Maas, a resident of Las Mercedes, was shot several times with a 12 caliber rifle. Police also tied up, beat and interrogated the men of two communities, in an attempt to identify their leaders. Four people are still missing, the team reported, and 32 were arrested. [CERIGUA WEEKLY BRIEFS, NUMBER 35, SEPTEMBER 11, 1997 Scorched Earth Applied in Evictions, Two Campesinos Dead ]	Tear gas		
Haiti	The police claim that Civil tried to catch a tear gas grenade, but demonstration organizers told IPS that in addition to the two tear gas grenades fired by police, they also intended to cause injury by firing a fragmentation grenade into the crowd. It was this grenade which hit Civil, they contend. [Interpress January 15, 1997]	Tear gas		
Honduras	"We fear that this disappearance is part of a repression campaign to intimidate, dismantle and demobilize the indigenous movement," said COPIN in a communique, noting that at an Apr. 28 indigenous protest in Tegucigalpa, police agents attacked the crowd with tear gas and threatened Lenca activists with death.[Agencia Informativa Pulsar 5/21/99; La Nacion (Costa Rica) 5/22/99 from Reuters]	Tear gas		
Hong Kong	The amendment comes as the Hongkong Government is gearing up for the fast repatriation of about 21,000 remaining boat people by the first few months of 1996, under an agreement signed with Vietnam earlier this year. News of the debate is partly blamed for the violent clashes at Whitehead detention centre earlier this month between detainees and the Correctional Service Department and police, which injured hundreds. Control inside the camp was nearly lost and more than 3,000 tear gas canisters and grenades were fired. In a two-day operation, 2,500 officers in riot gear transferred 1,500 boat people to High Island detention centre in preparation for their return to Vietnam. (Repatriations: US Congress Bill: Threatens Viet Scheme: Amendment debate sparks violent demos. WINDOW, p8, June 2 1995).  Hong Kong police are turning to an altogether different type of chemical weapon: a canister that ejects, not an irritant spray whose inhalation might bring about pulmonary ill-effects, but an irritant foam using the active ingredient of pepper. South China Morning Post, 29 Sep 96, p 4, "Police opt for less-risky pepper foam over tear-gas", via Nexis.	Tear gas Pepper Foam		
Hungary	In May 1993 Hungarian police raided a Roma community in Béke utca in Orkeny, about 50 kilometres south of Budapest. The police were investigating a theft from a car belonging to a German tourist. They searched houses and allegedly beat their occupants with rubber truncheons and sprayed them with tear-gas. Radics Mártonné was beaten with truncheons when she came out of her house to see what was happening. Her husband and 13-year-old son Kristian were arrested. Lakatos Lászlóné, a 55-year-old woman, fainted and was taken to hospital after an officer beat her, ripped off her tracheotomy tube and sprayed tear-gas in her face. Fehér Péterné, who was five months pregnant,	Tear gas	Rubber batons	

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Country	Description	Chemical	Kinetic	Other
	tried to protect Lakatos Lászlóné as she lay unconscious. She too was beaten and sprayed with teargas. She later required medical treatment for her injuries and miscarried. No action has been reported against the police officers responsible. [94-12-20. ACT 77/001/1995. Human rights are women's rights] <a href="http://www.amnesty.se/women/242e.htm">www.amnesty.se/women/242e.htm</a>			
Indonesia	More than 2,000 civilians seeking shelter from paramilitary violence were in the church and on the grounds. Indonesian riot police shot tear gas into the church. As the terrified refugees ran out, paramilitaries attacked them with arrows, spears and homemade guns, killing about 50 people. The paramilitaries also attacked the priest's residence, murdering five people who were hiding upstairs. [Witnesses to East Timor Violence to Speak at United Nations Press Conference, Thursday, 11 May 1999].	Tear gas		
Iraq	On 3/5/84, the Reagan Administration first accused Iraq of using lethal chemical weapons. The US has never indicated what chemicals are being used, but according to one official, the Iraqi forces are using nitrogen mustard gas, an incapacitating and sometimes lethal agent, to counter human wave attacks by the Iranians. Nonlethal tear gas is also sometimes used. (Charges of toxic arms use by Iraq escalate. Chemical & Engineering News March 19, 1984 p. 16,181)	Tear gas		
Israel	To date, about 460 Palestinians have been injured in clashes and rioting throughout the West Bank, mainly from tear gas and rubber bullets.  Jenin: Hundreds demonstrated in this city, and clashes resulted in dozens injured from rubber bullets and tear gas. One demonstrator was seriously wounded when a tear gas canister hit him in the head. [Clashes continue in the West Bank. Israeli Soldier sexually assaults Palestinian woman under Curfew. 31 March 1997. LAW - The Palestinian Society for the Protection of Human Rights and the Environment].  A publication by the Palestine Human Rights Information Center in Jerusalem states that tear gas killed 31 of the 146 people said to have died since December in consequence of the unrest in the Gaza Strip and the West Bank (Middle East Report May/June 1988).  Amnesty International publishes a document summarizing reports that Israeli soldiers have been deliberately misusing tear gas in the Occupied Territories; local medical personnel had reported that since December 1987 more than 40 people had died following tear-gas inhalation, including 18 babies and 17 elderly people. Seven such reported cases are detailed in the document. ( Amnesty International. International Secretariat. 'Israel and the Occupied Territories: The Misuse of Tear-Gas by Israeli Army Personnel in the Israeli Occupied Territories', London, 1 June 1988 (AI index: MDE/15/26/88).  UNRWA releases figures showing that, of the 309 Palestinians killed since the start of the uprising in the Gaza Strip, 12 had died from tear gas, most of them babies; 31 people had been treated for tear-gas injuries during the previous fortnight. (Jerusalem Post, 30 Nov 88, p 12, as quoted in FBIS-NES-88-230 of 30 Nov 88, p 34).	Tear gas	Rubber bullets	
Japan	03699876 Supplier Number: 07158453 Okinawa police suspect tear gas caused injury to farmers. (working inside U.S. Gimbaru training camp)	Tear gas		

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Kenya	When Saba Saba Day rallies were banned last week under the draconian security laws that defiant reformists are protesting, the result was inevitable. Many rallies went ahead despite the ban and police anti-riot and paramilitary units moved in to disperse them. Nairobi again became a battleground between the police and demonstrators. Traffic came to a standstill, cars were stoned and people in the crowded streets rushed to escape salvos of rubber bullets and choking clouds of tear gas. At the day's end the countrywide death toll was at least seven, including two students at the University of Nairobi. Hundreds were wounded and scores arrested. [Time. July 21, 1997. SABA Bloody Saba. Moi's Security Forces Bludgeon Sanctuary seekers in a crackdown on Kenya's political reform movement].	Tear gas		
Mexico	TUXTLA GUTIERREZ, Mexico, June 3 (Reuters) - Hundreds of Mexican police firing tear gas, stormed an opposition-run village in the troubled southern state of Chiapas and arrested 147 people, officials said. About 400 police raided the village of Nicolas Ruiz, some 370 miles (600 km) southeast of Mexico City, because the leftist Party of the Democratic Revolution (PRD) that governs the town had expelled 33 pro-ruling party families, state officials said. Villagers battled police briefly with sticks and stones before order was restored and scores of residents led away in police vans. Arely Madrid, undersecretary for internal affairs in the state, told a news conference.[Reuters 3 June 1998 Police raid Mexican village in Chiapas, arrest 147]	Tear gas		
Montenegro	In Montenegro, during a rally in Podgorica, police use not only tear gas but also, according to an account broadcast next day from Belgrade, "unknown chemical weapons". The Serbian broadcast continues: "The reaction of people was not just as when tear gas is used, but all their muscles were also contracting, people were rolling on the ground in the parks trying to defend themselves. Today after all that, they feel horrendous fear and panic, apathy, and all this points to the fact -- as also borne out by experts, doctors and others -- that not only tear gas was used, but also unknown nerve chemical agents." (Jovan Vukovic, statement broadcast on Radio Beograd (Belgrade), 1100 hrs GMT 15 Jan 98, as translated from the Serbo-Croatian in FBIS-EEU-98-015, via WNC).	Tear gas		
Philippines	PHILIPPINE SOLDIERS fought intense battles yesterday with the separatist rebels who are holding 27 children hostage on a southern island, but attempts to rescue the captives came to nothing. The troops sprayed tear gas into a tunnel complex where the Abu Sayyaf Muslim extremist group is believed to have hidden at least some of the schoolchildren, seized as human shields from two schools six weeks ago. [Philippines. Bandits escape soldiers' attempt to rescue children. THE INDEPENDENT (FIND); 1 May 2000]	Tear gas		
Rwanda	Within hours parts of Kibuye town were ablaze, and the homes of members of the Tutsi ethnic minority group began to be systematically destroyed. Members of 'Interahamwe', the police and local government officials roamed through Kibuye over the following days, burning houses and killing. Women found sheltering in the parish church were raped, then pieces of wood were thrust into their vaginas, and they were left to die slowly. Tutsi sheltering in churches and municipal buildings were herded into Kibuye stadium. More than 15,000 people were crammed into the stadium. The prefect fired the first shots into the crowded arena. Then young and old alike were shot dead or hacked to death with machetes. Tear gas canisters were thrown to flush out any survivors. [ <a href="http://www.amnesty.se/women/242e.html">http://www.amnesty.se/women/242e.html</a> , December 20, 1994]]	Tear gas		
South Africa	At Least 15 Killed in Stampede at Railroad Station. TEMBISA, South Africa (AP) - Security guards trying to control a crowd at a railroad station used electric cattle prods and sparked a stampede that killed at least 15 people and injured	Tear gas	Rubber bullets	Electro-shock

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	<p>dozens. A mob torched the ticket booth at the station in Tembisa township, northeast of Johannesburg, and stoned police when they arrived to restore order.</p> <p>Police remove the body of one of at least thirteen persons killed at Tembisa, north east of Johannesburg, Wednesday July 31 1996 when security guards trying to control a crowd at a railway station used electric cattle prods and started a stampede. Police threw a cordon around the station and fired tear gas to drive the crowd back. One police officer fired a riot gun, apparently loaded with rubber bullets, over the heads of the retreating crowd that had swelled to about 1,000 people. City official Ephraim Kgaase said 13 people were killed outright in the stampede. Maggie Moghshoa, a nurse at Tembisa Hospital, said two other people had died of their injuries at the hospital. (<a href="http://www.newstimes.com/archive/jul3196/ine.htm">http://www.newstimes.com/archive/jul3196/ine.htm</a>)</p>		bullets	shock
South Korea	<p>Two weeks into the occupation, Ross faxed a letter to Mando's CEO warning the strike was making his investors nervous. "I simply made it obvious to the company that, if the unrest continued, it would make Mando financially non-viable," Ross told IPS. The threat worked: a few days later, 10,000 riot policemen armed with clubs, pepper fog, tear gas and water cannons stormed Mando's seven factories and arrested 1,800 workers; later 25 leaders of Mando's trade union went to prison. [InterPress Service, 20-Apr-99 Backlash Over US Role in Strike-Breaking].</p> <p>The Korea Herald reports that a total of 122,793 tear-gas projectiles, costing the equivalent of ú2.4 million, have so far this year been fired during civil disturbances in South Korea, 34 percent up on last year. (Korea Herald, 15 May 91, as quoted in: Times (London), 18 May 91, p 5, "Seoul Notebook: Toothpaste rival for gas tycoon").</p> <p>In Seoul, figures are published indicating that South Korean riot police have used an average of 511 tear-gas shells per day, in addition to tear-gas canisters and grenades, over the past 10 years. (AP, as in Daily Telegraph (London), 4 Jan 90, p 12.)</p> <p>In South Korea a prolonged period of political crisis is marked by rallies against President Chun's decision, on 13 April, to postpone inter-party talks on democratic reform. A sequence of violent demonstrations and riots begins, with riot police using great quantities of tear gas:[1] more than 20,000 rounds per day, to a total of 351,200 rounds for the period 10-26 June (which reportedly exceeds the total number used during the first nine months of 1986, when US\$6.7mn was spent on 313,000 rounds).[2] [1] Independent, 19 Jun 87, p 1, 'Hints of deal as Korea rocked by new rioting'. [2] Far Eastern Economic Review, 9 Jul 87, p7, 'Tear-gas tally'.</p>	Tear gas		
Spain	<p>665. Juan Calvo Azabal was arrested on 19 August 1993 at Nanclares de Oca, Alava, by members of the Ertzaintza police, who accused him of having stolen a vehicle at the Arkante base in Alava. According to the forensic report, his death was caused by asphyxiation triggered by the self-defence sprays used by the police. In addition, numerous wounds were reportedly discovered on the body. (Report of the UN Special Rapporteur on Torture. E/CN.4/1995/34. 12 January 1995.)</p>	Self defence sprays		
Sri Lanka	<p>"This horrendous targeting of the working journalists of this country through the use of rubber bullets, tear-gas, baton charges and high pressure water canons by men identified as those belonging to the Presidential Security Division has</p>	Tear gas	Rubber bullets	Water cannon

**APPENDIX 5. COUNTRIES DEPLOYING CHEMICAL IRRITANT WEAPONS AND SELECTED INJURIES AND DEATHS ASSOCIATED WITH DEPLOYMENT**

Country	Description	Chemical	Kinetic	Other
	<p>resulted in medical attention, including hospitalisation being required for as many as ten journalists and extensive and costly damage caused to camera equipment. The Guild salutes the following media personnel who suffered at the hands of dictatorial elements in the police service. (Sunday Times Sri Lanka 18<sup>th</sup> July 1999).</p> <p>In Sri Lanka, chemical weapons are reportedly used in fighting between Tamil Tiger guerrillas and government forces attacking the Tamil stronghold of Jaffna. Rumours of imminent chemical use some weeks previously had caused the Army to issue gas masks, for in 1990 the rebels had reportedly attacked an army camp with chlorine. The Defence Ministry says that the gas, whose nature had not yet been ascertained, had caused no casualties because troops were prepared for it. Later, the chemical weapons are said to have been volley-fired tear-gas canisters. (Mohan Samarasinghe from Colombo for Reuters, 25 Nov 95, "Sri Lanka rebels use gas to slow advancing troops", via Nexis; Reuter (from Colombo) as in Boston Globe, 26 Nov 95, p 30, "Sri Lanka accuses rebels of using gas"; AFP (Hong Kong) from Colombo, 25 Nov 95, as in FBIS-NES-95-227, 27 Nov 95, p 85; AFP as in Sunday Telegraph (London), 26 Nov 95, p 33, "Tigers launch gas attack").</p>			
United States of America	<p>Tactical teams launched a tear gas attack late Friday, capturing 37 inmates who had taken control of a portion of Ohio's Death Row at the Mansfield Correctional Institution. [Death row back under control. Tear gas used to regain Mansfield prison. The Cincinnati Enquirer. 6 September 1997]</p> <p>Prison Warden Willis Gibson testified yesterday it was a mistake that his staff used a particularly noxious tear gas that is intended only for outdoor use -- not the confined space in which the 130 inmates were gassed May 30. [Beacon Journal Online Story. Friday, September 19, 1997. Inmate transfers are upheld]</p> <p>The suit also seeks improved health care and money damages for problems that have occurred at the facility, including the use of tear gas on inmates. Akron Beacon Journal March 20, 1998</p> <p>Next of kin of deceased deputy could bring suit for death allegedly caused by toxic fumes from tear gas cannister. Nicholas v. City of Alton, 437 N.E. 2d 757 (Ill. App. 1982).</p>	Tear gas OC		
Venezuela	<p>"Some 25 prisoners are burned to death in a Venezuelan jail after guards fire tear gas canisters that start a blaze." [Venezuela. Today in History. Central News Agency (Taiwan) (FCNA); 22 October 1999.</p> <p>"[The guards] would never let him leave La Planta on his trial date because we couldn't afford to pay them off," she said. "If you're poor, there is no justice in this country. Now they've burned him to death." The Oct. 22 fire started after guards threw tear gas canisters and possibly incendiary bombs into a locked cell holding 150 inmates. The prisoners' bodies were found piled one on top of another, suggesting the inmates had attempted to escape through a small gap in the roof, said La Planta's chaplain, Aurelia Ferrin. "What happened there was murder," he added. [Newsday November 7, 1996, page(s) A24. Abuses Abound in Venezuelan Prisons Human-rights groups report overcrowding, deadly riots, corruption]</p> <p>In Venezuela the situation has been brought under control following the fire in the La Planta Prison which caused the deaths of 30 prisoners, although the bodies of only 20 have been recovered so far Angel Garcia reports. [Garcia]</p>	Tear gas	Rubber bullets	Water cannon

**APPENDIX 5. COUNTRIES DEPLOYING CHEMICAL IRRITANT WEAPONS AND SELECTED INJURIES AND DEATHS ASSOCIATED WITH DEPLOYMENT**

Country	Description	Chemical	Kinetic	Other
	Venezuelan Justice Minister Enrique Meyer blamed the incident on prison staff. According to the minister, the fire was started deliberately. He also said that members of the National Guard locked a group of prisoners in a block, handcuffed them and then fired tear gas canisters at them. The prisoners also accuse the police of firing at them from outside the prison.(Thirty die in prison fire; minister blames prison staff, police. RNE Radio 1, Madrid. October 22, 1996.)			
Yugoslavia	At NATO headquarters, spokesman General Guisepe Marani announces reports of Yugoslav forces in Kosovo using tear gas to drive civilians from their homes in Pristina. He says: "Tear gas shouldn't be used in combat. It can be used for police work. You can use it to pull someone out of a house and arrest him. It shouldn't be used to pull someone out of a house and shoot him." [ Reuters 20 Apr 99, "NATO says it hit Serb `Frog' surface missile site"].	Tear gas		
Zambia	At least one and possibly two people were shot dead by police during November 2 riots in Luanshya, Zambia, sparked by a long-running dispute between copper miners, their union and the new mine owners, the Binani group of India. One other small child was reported dead as a result of inhaling tear gas that burst from a cannister thrown into its parent's house. The Luanshya and Baluba mine was sold to the Binani group in June 1997 as part of the ongoing privatisation of Zambia Consolidated Copper Mines (ZCCM.) (Electronic communication based on trip report from Oxfam Great Britain, "Zambia tremors as copper mines face privatisation" by Jowie Mwinga, Johannesburg Mail&Guardian, February 14, 1997)	Tear gas		

**APPENDIX 6.**

<b>APPENDIX 6. USE OF LESS-LETHAL TECHNOLOGY IN CONJUNCTION WITH LETHAL FIREARMS.</b>					
Country	Description	Chemical	Kinetic	Other	Small Arms
Argentina	<p>Two demonstrators were shot to death and 50 people were injured early on Dec. 17 in Argentina's northeastern province of Corrientes. Another 28 people were arrested. The protesters were public employees demanding back wages; they had blocked the Belgrano bridge over the Parana river that links the provincial capital, Corrientes, with Resistencia, capital of neighboring Chaco province, near the Paraguayan border. The violence erupted when some 1,000 gendarmes--agents of the militarized national border police--were sent in to unblock the bridge. Francisco Escobar and Mauro Ojeda were killed by bullet wounds to the chest. Those injured included at least 11 people--four of them gendarmes--who suffered gunshot wounds. After the shootings, Corrientes interim governor Hugo Perie sent unarmed provincial police agents to form a cordon separating gendarmes from demonstrators, in an effort to prevent further violence.</p> <p>Interior Minister Federico Storani said the government "is dismayed and shaken" about the incident, but he defended the gendarmes, insisting that they did not use firearms against protesters. "They only used tear gas and rubber bullets," he said. According to Storani, the bullets that killed demonstrators Escobar and Ojeda were 22-caliber, which are not used by the national police. Storani said the government will investigate to determine who was responsible for the shooting. (Clarín (Buenos Aires) 12/16/99, 12/18/99; CNN en Español 12/16/99 from Reuters, 12/18/99 with info from Reuters).</p> <p>The Cutral Co rebellion reached its highest point with the arrival of some 700 gendarmes who cleared the road with the use of batons, tear gas, dogs and water cannon. They also opened fire on the crowd, killing one 24 year-old woman. [Interpress May 8, 1997].</p>	Tear Gas	rubber bullets	Water Cannon	live ammo
Armenia	<p>Security forces opened fire on opposition demonstrators in the Armenian capital Wednesday, wounding 26 people protesting the outcome of the presidential election. A doctor said one man was killed. The violence broke out when an estimated 40,000 people gathered outside the parliament building, which also houses the Central Election Commission in downtown Yerevan. It was the third protest in as many days by people accusing President Levon Ter-Petrosian of winning re-election through fraud in Sunday's voting. Security forces used tear gas and water cannon when the crowd broke through an ornate, 15-foot metal fence around the parliament building and tried to storm it. Bursts of automatic gunfire were later heard as security troops opened fire with automatic weapons. (Armenians Fire On Opposition. Associated Press News Service. September 25, 1996)</p>	Tear gas		Water cannon	Auto-matic gun fire
Bahrain	<p>These military supplies were mainly for the use of the Bahrain Defense Forces, which was not acknowledged to have been involved in internal security operations. Expatriate residents of Bahrain told Human Rights Watch, however, that tear gas and other projectiles were fired from foreign-supplied helicopters into villages during clashes. (Bahrain. Human Rights Watch World Report 1997. Human Rights Developments).</p> <p>On a regular basis from January through July, the security forces used tear gas, rubber bullets, and, occasionally, live ammunition to disperse gatherings during which protesters called for the reestablishment of an elected parliament and the release of prisoners; objected to Al Khalifa rule; denounced police brutality; protested foreigners in the security forces and in the labor force; and demanded increased employment opportunities. After each of these incidents, suspected leaders and active participants were arrested. (U.S. Department of State Bahrain Country Report on Human Rights Practices for 1996).</p>	Tear gas	Rubber bullets	Electro-shock batons	Shot-guns

**APPENDIX 6. USE OF LESS-LETHAL TECHNOLOGY IN CONJUNCTION WITH LETHAL FIREARMS.**

Country	Description	Chemical	Kinetic	Other	Small Arms
	<p>The security services carried out the attack "to gain foreign support" against the opposition in Bahrain, it charged. Black-uniformed troops from the army's special forces, armed with machine guns, assault rifles and tear-gas guns, were deployed on Friday around the Sitra, Jidhaf and Sanabis districts outside Manama. (Agence France-Presse. More than 400 arrests after deadly Bahrain firebomb attack. March 15, 1996).</p> <p>Yesterday, I was the only Western journalist able to visit Dair, one of the battle-scarred villages, on the edges of the busy international airport where hours before riot squads had used teargas and live ammunition to disperse protesters chanting for the return of the short-lived parliament disbanded by the Emir in 1975. One of scores of bearded Islamic youths who surrounded my taxi pressed a used 9 mm cartridge into my hand before fleeing up a narrow alleyway of the impoverished fishing village. (Bahrain struggles to keep the lid on Muslim Uprising. The-Times, T 24/2/96)</p> <p>On the 1st of April 1995, the University of Bahrain witnessed a massive demonstration inside the university campus. Security Forces entered the campus and fired live ammunition, rubber bullets and tear gas. Many students were injured and arrested. Others were harshly beaten. (8<sup>th</sup> May 1995. Bahrain Human Rights Organization (BHRO)).</p>				
Bangladesh	<p>At one point warders blared tape-recorded religious sermons over a loudspeaker to drown out chanting prisoners. Early on Dec. 22, nearly 3,000 troops bulldozed their way through the facility's main gate, using <b>live ammunition</b>, tear gas and water cannon to overwhelm the inmates' spears, arrows and machetes. At least nine people died. Unhurt were 75 female prisoners and their children. (CNN Asiaweek. Week of January 10, 1997. Running Riot in Bangladesh).</p>	Tear gas		Water cannon	Live ammo
Bolivia	<p>Where public sector workers have gone on strike or protested, in defiance of the law, the police or army have brutally cracked down, using live ammunition, teargas, and rubber bullets, leaving 25 people dead as a result. In clashes with police in April 1998, during negotiations over public sector salaries and benefits, eight people, including a young baby, were killed, and many were injured seriously enough to be hospitalised. (Bolivian Government responsible for grave human and trade union rights violations says global union. ICFTU OnLine 141/990721/DD).</p> <p>On Thursday, the government reported that a colonel of the Special Security Group (GES), who was in charge of the troops of the area, died at midday from a bullet wound. It also reported that two civilians died in the afternoon hours. Witnesses reported that the occupation of the area, where the troops entered firing tear gas cocktails and weapons, caused the death of another two persons, including a 15-year-old young man. [EFE news agency, Madrid. Provisional death toll in mine clashes rises to nine. December 21, 1996]</p> <p>Four people were killed and 19 injured on Dec. 19 when some 600 Bolivian police and army troops tried to remove protesters from the Amayapampa gold mine in Potosi department using tear gas, rubber bullets and firearms. Miners and their families had occupied the Amayapampa and Capasirca mines to prevent the new owner, the Canadian firm Da Capo Resources, from taking control. Some reports said three miners and one 15-year old child were killed; the government admitted only three deaths. [Bolivian Ministry of Social Communication (MCS) summaries of morning &amp; evening media 12/20/96; Diario Las Americas (Miami) 12/21/96 from AFP]</p> <p>Campesino coca producers (cocaleros) participated in the strike by blocking highways in the Chapare region of the Cochabamba tropics. Combined forces of the anti-drug police, the regular police and the army used heavy repression to unblock the highways; hundreds were arrested, at least 27 were injured and four campesinos were killed between Apr. 1 and 4. At least two were killed by bullets; another died from tear gas exposure. (The government claims that two of the deaths were not related to the strike.) [El Diario-La Prensa (NY) 4/2/98 from</p>	Tear gas CN gas CS gas	Rubber bullets		Fire-arms  Live ammo



**APPENDIX 6. USE OF LESS-LETHAL TECHNOLOGY IN CONJUNCTION WITH LETHAL FIREARMS.**

Country	Description	Chemical	Kinetic	Other	Small Arms
	AP; La Tercera (Chile) 4/4/98, 4/5/98 from wire services; CNN en Espanol 4/3/98 from AP, 4/2/98 from Reuter; Notimex 4/5/98] [At least until 1995 (and probably since then), the US Defense Department provided CN and/or CS gas to the Bolivian troops which carry out attacks against cocaleros. In 1995--a year in which the Bolivian government declared a state of siege, arrested union leaders in order to break a general strike, and carried out intense repression against cocaleros--the Defense Department provided Bolivian anti-narcotics police with 3,296 cartridges of CN gas. [Human Rights Watch/Americas (HRW/A) report Vol. 8, No. 4 (B), May 1996, "Bolivia Under Pressure: Human Rights Violations and Coca Eradication"]				
Bosnia	In Bosnia-Hercegovina, Muslim forces in Sarajevo are reported by Tanjug news agency to have carried out a strong mortar attack using "82mm calibre shells...filled with poison gases, that is tear gas".[1] Two weeks previously, Radio Croatia had reported Muslim use of "chlorine-charged missiles" against Grbavica, a Serb suburb of Sarajevo, and also against Ponjave, a Croatian part of Vitez.[2] [1] Tanjug (Belgrade) from Lukavica, Sarajevo, 1414 hrs GMT 14 Dec 93, as translated from the Serbo-Croat in JPRS-TND-94-001, 6 Jan 94, p 8, and in BBC Summary of World Broadcasts 16 Dec 93, via FT Profile. [2] Radio Croatia (Zagreb) 2300 hrs GMT 2 Dec 93, as translated from the Serbo-Croatian in JPRS-TAC-94-001, 18 Jan 94, p 1.				Mortar
Brazil	One worker was killed and 38 others were wounded on Nov. 2 in Brasilia as state Military Police (PM) agents used live gunfire, tear gas, rubber bullets and police dogs to break up a protest by striking government workers. Employees of Novacap, a government agency in charge of urban infrastructure improvement in the Brazilian capital, were striking to demand better wages; a group of about 30 strikers were blocking the entrance to the Novacap building when police attacked. Jose Ferreira da Silva was killed by a police bullet that pierced his lungs and heart. Nine other workers were seriously hurt, including two who lost their eyesight. (CNN en Espanol 12/2/99 from AP; Notimex 12/3/99; La Republica (Lima) 12/4/99 from EFE; El Nuevo Herald (Miami) 12/4/99 from AFP  The operation began with the Marabá troops approaching the MST barricade firing tear-gas and live ammunition into the air. The peasants threw sticks, stones and scythes at the police and began to run towards them. This forced police to retreat towards a truck blocking the road. One shot was fired from a revolver by one of the peasants in the direction of the police. In possible panic, police raised their machine guns to body level and began firing into the crowd. The crowd dispersed as people began to realise they were being shot at with live ammunition. The first to fall and die was apparently Amâncio Dos Santos Silva, known as "Surdo-Mudo" ("deaf-mute"). Unable to hear the shots, he took longer than the others to understand what was happening. According to witness Francisco Clemente de Oliveira, "We shouted at him to run but it didn't help. The soldiers got close and shot him in the head." (Amnesty International. AMR 19/01/98. January 1998. Brazil- Corumbiara and Eldorado De Carajas - Rural Violence, Police Brutality and Impunity)	Tear Gas	Rubber Bullets		Live ammo
Chile	The people went on resisting in order to protect the sawmill equipment but the police and guards showed no hesitation in continuing their brutal attacks, using dogs and tear gas. The people had no option but to flee from the scene. They were pursued as they tried to seek refuge in the surrounding fields but since the aggressors were in the majority they continued their attack with bullets, tear gas and death threats. [Derechos Human Rights Serpaj Europe 14Mar99]  On Sept. 12 PC General Secretary Gladys Marin blamed the government for Varela's death, and demanded that authorities reveal the chemical components of the tear gas used and of the liquid sprayed by police water cannons. Col. Sergio Apablaza, Carabineros operations chief for the Metropolitan Region, said the elements used did not constitute a risk to human health, and that they were not made up of chemical but rather organic ingredients, such as pepper and garlic extracts. [EM 9/13/98]	Pepper Tear gas		Water cannon	Bullets
China	To disperse the demonstrators, the Chinese police and military used high pressure water and tear gas. Witnesses say that many people	Tear gas		high	Machine

**APPENDIX 6. USE OF LESS-LETHAL TECHNOLOGY IN CONJUNCTION WITH LETHAL FIREARMS.**

Country	Description	Chemical	Kinetic	Other	Small Arms
	were beat to death and about 500 people were arrested. Next day, the Chinese soldiers used machine guns both from air and ground killing many demonstrators. By some reports, the death toll reached hundreds; much more people were wounded, and about one thousand Uyghurs were imprisoned. The first victim killed by the Chinese bullet was Fatima, an 8 years old Uighur girl who came to demand release of her father. Another victim was Gulzira, a pregnant woman who came for her husband. Yakup Haji from Juliza, a district located 15 miles from Ghulje, lost 6 members of his family. (The World Uyghur Network News. 11 March 1997. Uyghur demonstrators in Ghulje demanded release of the arrested relatives).			pressure water	guns Beatings
Colombia	Witnesses said Thursday's clash occurred when thousands of peasants barred from entering Caqueta's provincial capital of Florencia surged toward a military barricade on a bridge leading into the city. Troops opened fire with tear gas and live ammunition to halt the drive across the bridge, the witnesses said, adding that all the gunfire appeared to have come from the military side of the barricade. (Reuters. 11 injured in new clash in southern Colombia. August 29, 1996).	Tear gas			Live ammo
Denmark	On 18 May 1993, after the announcement of the result of the Danish referendum on the Maastricht Treaty, police shot at demonstrators injuring at least 11 people in the N'rrebro district of Copenhagen (see Statewatch, Vol 3 no 3 & Vol 4 no 1). In the confrontation the crowd threw stones at the police. The police used tear gas, threw back stones themselves and fired 113 shots in the air and into the crowd. Several of the 11 people hit by police bullets were severely injured. 47 demonstrators were arrested and several kept in detention - only 30 of the 47 were charged with offences and six of the 11 injured were acquitted. This article looks at the trial and its aftermath. (Denmark:Norrebro: the trial and epilogue. Statewatch, Vol 4 no 4, July-August 1994 )	Tear gas			Live ammo
Djibouti	In Djibouti, police used live ammunition and tear-gas in an attack on a union-led protest March. The unions' crime? They had organised a protest because their salaries had not been paid. (ICFTU Annual Survey of Violations of Trade Union Rights - 1998).	Tear gas			Live ammo
Dominican Republic	One student was shot to death and dozens of others were wounded by birdshot on July 6 in the Dominican Republic when police used guns and tear gas to break up a protest by students at the Autonomous University of Santo Domingo (UASD). The killing of law student Franklin Bartolo Fabian Mejia further intensified the protests. [El Diario-La Prensa (NY) 7/7/98 & 7/8/98 from correspondent].  Jose Cabrera was killed on July 9 by police tear gas in the southwestern town of San Juan de la Maguana during a strike calling for lowering the cost of living and improving basic services. At least 270 people have been arrested during the wave of strikes, which started in Nagua, then spread to San Francisco de Macoris, parts of Santo Domingo and other cities. [El Diario-La Prensa 7/10/97 from EFE, 7/12/97] The PLD government has been quick to respond with military force, with soldiers firing live ammunition into crowds.	Tear gas			Live ammo
Ecuador	Hours later, 100 government soldiers arrived at the scene and tried to disperse the protesters with tear gas, but they succeeded only in infuriating the crowd. The military opened fire against the protesters, injuring 12 people. Several of them were reportedly shot in the back. A bullet hit Segundo Bedon in the spine and he now risks death or paralysation. (13-July-99. IPS. Does Strife Mean History Will Repeat Itself?).  Anti-riot police used tear gas to stop some 500 demonstrators from reaching the government palace in Quito. Police Major Darwin Valencia, commander of the Special Operations Group (GOE), was hit by a bullet in the leg as he led the operation to disperse demonstrators; police agent Jorge Ramirez Pena was injured by rocks thrown by demonstrators.	Tear gas			Bullets
Egypt	The recent attack by Egyptian security forces on members of the legal profession in Egypt is undoubtedly a measure of the extent to which the human rights record in Egypt has deteriorated. The lawyers, who were peacefully protesting the death under interrogation of one of their	Tear gas			Live anno

**APPENDIX 6. USE OF LESS-LETHAL TECHNOLOGY IN CONJUNCTION WITH LETHAL FIREARMS.**

Country	Description	Chemical	Kinetic	Other	Small Arms
	colleagues, were confronted with tear gas, live bullets and savage beatings. According to the Egyptian Bar Association, at least four lawyers had been shot and more than a hundred suffered breathing difficulties. A television report aired by several international networks showed a horrific scene of several Egyptian policemen savagely beating a lawyer on the head and the shoulders. [Liberty Condemns Repression of Lawyers in Egypt. London, 18 May 1994]				anno
Ghana	About 50 armed policemen yesterday sealed off the premises of the Ghana Agro-Food Company (GAFCO) following a decision by the management to close the factory down temporarily due to workers agitation for higher salaries. About 600 workers who reported for work had to leave after they were told by their union officials that "the closure is not the end of the struggle". There was no confrontation between the workers and the police who were armed with tear gas, rifles and shields while a water cannon vehicle stood by. Mr Wilson Agana, Chairman of the Tema District Council of Labour, said negotiations for new wages for the 1,600 workforce were called off at the last hour yesterday. The meeting started last Thursday when the workers resumed work after a three-day strike and was postponed to Monday to enable the Ghana Employers Association to hold discussions with the managing director of GAFCO. (NEWSRUNNERBOT 16-9-98)	Tear gas		Water cannon	rifles
Guatemala	Two of the buses got through the crowd, but the campesinos reportedly stopped the third bus, forced the agents out and beat them with sticks, rocks and machetes. The police retaliated with tear gas and gunfire; campesino Miguel Sol was shot to death. [La Republica (Peru) 9/7/97 from AFP]  A team sent by the Consultative Assembly of Displaced People (ACPD) to investigate the incident said XoI of the community Tierra Blanca succumbed to tear gas poisoning and was then shot point blank by a Treasury Police agent. Maas, a resident of Las Mercedes, was shot several times with a 12 caliber rifle. Police also tied up, beat and interrogated the men of two communities, in an attempt to identify their leaders. Four people are still missing, the team reported, and 32 were arrested. [CERIGUA Weekly Briefs, Number 35, September 11, 1997 Scorched Earth Applied in Evictions, Two Campesinos Dead ]  El Tumbador, San Marcos, May 20. Although police authorities lack the officers to prevent mob violence and rampant crime, they managed to muster a small army May 15 to evict 50 campesino families here. Six hundred riot police armed with clubs, tear gas, shields and submachine guns made the day-long trek to the remote estates of Australia and El Tumbador to force out campesinos who have lived on the disputed lands since late 1995. Landowners' organizations have attacked the government recently for not dealing more harshly with land "invaders." (Hundreds of Police Evict Campesinos.. CERIGUA Weekly Briefs, Number 20, May 22, 1997)	Tear gas			gun fire rifles sub machine guns
Haiti	Confrontations flared last week between a police crowd-control unit and the residents of Delmas 24, a neighborhood of Port-au-Prince. The Company for Intervention and the Maintenance of Order (CIMO) fired bullets and tear-gas canisters into angry crowds after a policeman allegedly shot to death a young woman from the neighborhood. Naomie Simon, a 22-year-old student and apprentice accountant, was killed by a bullet to the neck and one to the stomach on Aug. 6. Neighbors who claim to have witnessed the shooting say that the victim was shot by her cousin's husband, a policeman named René Altidor. He had intervened at the request of his wife after the two cousins had an argument, they say. (Another Killing, Another Cimo Rampage. This Week in Haiti. August 18 - 24, 1999. Vol. 17, No. 22)  The police claim that Civil tried to catch a tear gas grenade, but demonstration organizers told IPS that in addition to the two tear gas grenades fired by police, they also intended to cause injury by firing a fragmentation grenade into the crowd. It was this grenade which hit Civil, they contend. [Interpress January 15, 1997]	Tear gas			bullets fragment -ation grenade
Honduras	"We fear that this disappearance is part of a repression campaign to intimidate, dismantle and demobilize the indigenous movement," said COPIN in a communique, noting that at an Apr. 28 indigenous protest in Tegucigalpa, police agents attacked the crowd with tear gas and	Tear gas	Batons		semi-auto

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Country	Description	Chemical	Kinetic	Other	Small Arms
	<p>threatened Lenca activists with death.[Agencia Informativa Pulsar 5/21/99; La Nacion (Costa Rica) 5/22/99 from Reuters]</p> <p>The soldiers jumped from the truck, some landing on top of marchers. A pushing match started and the first tear gas canisters were soon fired into the crowd. Panic ensued and many ran, some falling on top of others. For those who stayed near the police line, the shoving match got brutal. As the police and soldiers swung their batons causing severe injuries, a small group of protesters began throwing stones. Soldiers then escalated the violence with hundreds of rounds of semi-automatic gunfire. Eighteen marchers were injured, including various bullet wounds and multiple leg and spinal fractures. One Lenca indigenous man lost his eye from a shot to his face.(31 October 1999 - Source ??)</p> <p>Residents of El Paraiso in eastern Honduras expelled nearly 60 police agents from their community on Apr. 30 after police killed 49-year old Cristino Diaz Herrera and 11-year old Wilmer Diaz Mendoza in an attempt to remove hundreds of protesters who were occupying a section of highway since Apr. 28 and two public buildings since Apr. 29. The police, backed by military troops, used bullets and tear gas grenades to move demonstrators from the road, the municipal government building and the national registry office; the agents were then forced to flee the community as dozens of protesters broke windows and smashed walls and furniture at the police station before setting it on fire. The protesters are demanding that the government pave a dilapidated section of highway which stretches eight kilometers south to the Nicaraguan border town of Las Manos and is heavily used by commercial traffic. [El Diario-La Prensa (NY) 5/1/97 from EFE, 5/2/97 from EFE]</p> <p>The company refused to reinstate the dismissed trade unionists, despite a court ruling telling them to do so, and threatened to cease its operations in the country if obliged to do so. On 24/10/91 a military unit using live ammunition and tear-gas intervened to break up a demonstration against the company. Twenty strikers were wounded and one man was killed. The company made a further 47 dismissals and then declared a lock-out. (Survey on Violations of Trade Union Rights 1992 (01/06/1992). International Confederation of Free Trade Unions).</p>				<p>matic gunfire</p> <p>bullets</p> <p>live ammo</p>
Hong Kong	<p>Tear gas was fired as flames swept through a Hong Kong detention camp here early Friday as some 200 armed Vietnamese asylum seekers broke out of the site and fled into a nearby district, police and officials said. One prison warden was believed to have been taken hostage by a group of Vietnamese at the Whitehead Detention Centre and 15 other personnel were injured during the break-out, a government spokesman said. The police immediately dispatched more than 150 officers armed with rifles to try to detain the escapees and bring order back to the camp "but the situation was not under control yet," the spokesman said. (Agence France-Presse. Vietnamese asylum seekers break out of Hong Kong detention camp. May 9, 1996).</p>	Tear gas			rifles
India	<p>Police raided the village on midnight after 10,000 villagers led by Chilika Matsyajibi Mahasangh destroyed the prawn farms. Police then began to beat villagers mercilessly, threw tear gas shells and began shooting without provocation. Banchhanidhi Behera died on the spot; Digambar Behrera and Prema Behra on the way to hospital (and another victim died later at the hospital). (Asian Human Rights Commission. Urgent Appeal Project. UA Index: 62999. UA 24/99: Right to Protest Denied. 29 June 1999. INDIA: 4 Shrimp Farm Protesters Killed In India)</p>	Tear gas			live ammo
Indonesia	<p>More than 2,000 civilians seeking shelter from paramilitary violence were in the church and on the grounds. Indonesian riot police shot tear gas into the church. As the terrified refugees ran out, paramilitaries attacked them with arrows, spears and homemade guns, killing about 50 people. The paramilitaries also attacked the priest's residence, murdering five people who were hiding upstairs. [Witnesses to East Timor Violence to Speak at United Nations Press Conference, Thursday, 11 May 1999].</p> <p>On 6 April paramilitaries are reported to have killed between 30 and 57 people who had sought refuge in the compound of a parish</p>	Tear gas	plastic bullets	<p>water cannon</p> <p>spears</p> <p>home</p>	<p>guns</p> <p>live ammo</p> <p>assault</p>

**APPENDIX 6. USE OF LESS-LETHAL TECHNOLOGY IN CONJUNCTION WITH LETHAL FIREARMS.**

Country	Description	Chemical	Kinetic	Other	Small Arms
	<p>church in Liquisa, west of Dili. They were forced out of the compound by tear gas, fired by Brimob, Police Mobile Brigades, and then attacked by the paramilitaries with knives, machetes and guns. The authorities have prevented an independent investigation of the events, and are believed to have already destroyed vital evidence in the church compound. (Amnesty International Index: ASA 21/25/99. 14 April 1999. UA 77/99. Arbitrary detention/fear of torture/fear for safety. East Timor)</p> <p>JAKARTA, Indonesia (AP) -- In the worst violence since riots toppled President Suharto in May, at least six people were killed today when Indonesian security forces battled rock-throwing protesters and street mobs attacked suspected police informers. Local media reports said the death toll could climb and that possibly several hundred had been injured in clashes with police, who fired plastic bullets, tear gas and water cannons at the protesters. Hospitals said their emergency rooms were full of bleeding students, many in critical condition with gunshot wounds. (Associated Press. Six Killed in Indonesian Protests. November 13, 1998)</p> <p>The shootings occurred at around 5.30 pm at Trisakti University in West Jakarta, Indonesia. Thousands of students had staged a peaceful demonstration just outside the university which turned violent when some students began to beat a plainclothes security forces officer. The police reportedly began firing live ammunition, tear gas, and charging students with batons. Gun shots are also believed to have come from security force vehicles and nearby buildings. Witnesses reportedly saw police with rifles aimed directly at fleeing students. At least five students were shot dead and there are reports of up to 15 dead. At least 10 people are wounded -- some seriously -- and being treated at a nearby hospital. (Amnesty International INDEX: ASA 21/44/98. 12 MAY 1998. Indonesia: At least six students shot dead - how far will security forces go?)</p> <p>According to a report from the news agency Agence France Presse, the regional military commander, Colonel Agus Edyono, confirmed that live ammunition and rubber bullets had been used during the attack. He confirmed that 20 people were in hospital as a result of their injuries, but that he had heard of no deaths. The local police chief, Hotman Siagian, is quoted as saying that 180 people had been arrested in connection with the demonstration. According to one report, one of those detained is Yopy Karma, who has been shot in both legs. (Amnesty International Index: ASA 21/72/98. UA 193/98. Fear for safety. 7 July 1998. Yopy Karma &amp; 229 others)</p> <p>Helmeted security forces, carrying riot shields, assault rifles and hand guns had used tear gas and live ammunition during patrols in the North Sumatran capital after riots erupted to protest fuel price hikes. (AF. May 11, 1998)</p>			made guns	rifles
Iran	Iran has recently imported CW-agent precursors from China, according to the Washington Times quoting what it says is a "top-secret CIA report" dated 2 October entitled Arms Transfers to State Sponsors of Terrorism. The newspaper states that the report records Chinese delivery in the summer to an Iranian chemical centre of "nearly 400 metric tons of chemicals, including carbon sulfide -- used in production of nerve agents -- and another chemical used in producing riot-control agents and tear gas". Washington Times, 21 Nov 96, p A1, "China sold Iran missile technology", via Nexis.	√			
Iraq	"The conference focused on the long-range effects of the Iraqi chemical attack on the village of Halabja, where nearly 5,000 persons were killed in 1988. According to panelists, the hideous combination of mustard gas, tabun, sarin, VX, tear gas, and possibly aflatoxin that the Iraqi military used in the attack has resulted in dramatically increased rates of cancer, respiratory problems, heart failure, infertility, miscarriages, and possibly genetic damage in the surviving population." [USIS Washington File, 3 Mar 99, "Text: Clinton reports on Iraq's non-compliance with UNSC resolutions", via USIA website].	√			



Israel	<p>To date, about 460 Palestinians have been injured in clashes and rioting throughout the West Bank, mainly from tear gas and rubber bullets.</p> <p>Over the past three days, Israeli forces have used rubber bullets, live ammunition and tear gas canisters to disperse demonstrators, resulting in death and injuries. There have been 136 injuries in Ramallah and Al-Bireh and two deaths, Lu'ai Abdul Latif Hamed, Amari Refugee Camp, 20 years of age and Jihad Ayad, 17 years, from Silwad. Nasser Erakat from Abu Dis, 21 years of age, with 28 person injured in Jerusalem. In Hebron 28 people were injured, 62 injured in Bethlehem and Selfeed had 15 people injured, Qalqiya had 45 injuries, Tulkarem 3 injuries, and Jenin 3 injuries. Hamid Nahas, from Ramallah, 17 years, was shot in the eye, Madji Jawaha, also 17 years of Ramallah, shot in the head and Bassam Haj Hassam, 18 years of al-Bireh, was shot in the face all are in a critical state. ( 10 December 1998. LAW - the Palestinian Society for the Protection of Human Rights and the Environment)</p> <p>On 15 July,1998, about 100 Israeli soldiers raided the site where the Arashaida Bedouins were living. They claimed to be employees of the Israeli Planning Council. They assaulted the Bedouins and took away their livestock in trucks. The Bedouin families, angered by this humiliation, rushed to recover their property. According to eyewitnesses, the site began to resemble a war zone. The soldiers fired live ammunition and tear gas, causing injury to the residents. Mariam Arashaida, mother of five, said that when they saw their husbands and children being beaten by the soldiers, she and the other women rushed towards them, exposing themselves to the merciless batons of the soldiers. Mariam lost consciousness and woke to find herself in an ambulance.....</p> <p>These clashes resulted in the injury of 49 people. One was shot with live ammunition, and 14 with rubber bullets. 7 people had fractured bones, 3 women miscarried, and 32 people lost consciousness due to tear gas inhalation. [LAW the Palestinian Society for the Protection of Human Rights and the Environment Quarterly Human Rights Report July - September 1998].</p> <p>The violence yesterday was the worst since September 1996, when Benjamin Netanyahu, the newly elected Israeli Prime Minister, opened a tunnel under the Muslim quarter in the Old City in Jerusalem. More than 80 people were killed and over 1,000 injured on both sides. On that occasion, Palestinian police fired back at Israeli troops. This happened on one occasion in Gaza yesterday, but on the West Bank Israeli troops appeared to be mainly firing rubber-coated steel bullets and tear-gas at demonstrators. (Independent 15 May 1998).</p> <p>Witnesses reported that during the clashes soldiers had fired rubber bullets and tear gas at the demonstrators some of whom suffered light injuries until shortly before Abdallah was killed when an Israeli military officer was injured by stones thrown by the demonstrators. Subsequently, witnesses noticed two live bullets shot at "shoulder height". (The injury to the Israeli soldier was not reported to be life-threatening and, therefore, would not be adequate justification for the use of live ammunition.) Witnesses said they thought the bullets were explosive because of the way the rocks in the hill behind them exploded upon impact. (Birzeit University" Press Release, 31 March 1997 ).</p> <p>Palestinian soldiers pulled up and tried, half-heartedly, to restrain the youths. It was only when the Israeli troops fired on the teenagers, first with tear gas and rubber bullets and then with live ammunition, that the Palestinian police began firing back. As the battle heated up, Israeli attack helicopters swept in, firing heavy machineguns into apartment blocks with deafening noise and blasting rocks and debris. Seven Palestinians were killed and scores wounded. A nurse in a hospital was shot in the chest; two journalists watching the confrontation were hit by bullets. (Sunday Times September 29 1996. The Tunnel)</p> <p>When they reached an Israeli army checkpoint, they began burning tires and throwing stones at soldiers who responded with rubber bullets and tear gas. Doctors at Ramallah Hospital said 148 protesters were treated, most of them for rubber bullet injuries and tear gas inhalation. Three were wounded by live rounds, including one who was in critical condition with a bullet in the chest. (Associated Press News Service. Palestinians Riot Over Tunnel. September 25, 1996)In the Gaza Strip, a 50-year old woman fromJabalyah refugee camp dies from injuries suffered after inhaling tear gas. There had been a demonstration at the camp. During it, six residents had been injured by Israeli-Army fire and another ten from tear-gas inhalation. [Qol Yisra'el (Jerusalem) in English, 0400 hrs GMT 20 Jun 93, as in FBIS-NES-93-117, 21 Jun 93, p 49].</p>	tear gas	plastic bullets  rubber bullets		live ammo  attack helicopters  machine guns
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	22 March: Large-scale violent confrontation in Hebron, where Israeli soldiers fired rubber bullets, tear gas and live ammunition at nearly a thousand stone-throwing demonstrators. Over 100 people, including three journalists, were wounded in this day's clashes, including 10 in serious condition from bullet wounds. Confrontations continued in Bethlehem near Rachel's Tomb. (Clashes continue in the Occupied Territories as settlement construction continues. 27 March 1993. LAW - The Palestinian Society for the Protection of Human Rights and the Environment).				
Japan	During the eight-year war between July 1937 and August 1945, the Japanese army conducted chemical warfare regularly, according to the book. A particularly large amount of chemical weapons was used in a 1938 battle in Wuhan, about 750 kilometers west of Shanghai, where lethal poison gases including phosgene were used along with tear gas. The Japanese military used chemical weapons on more than 2,000 occasions, killing more than 10,000 and injuring 84,000, the book says. [Kyodo News International, Inc. Japanese chemical weapons victimized 94,000 Chinese. June 12, 1996]  03699876 Supplier Number: 07158453 Okinawa police suspect tear gas caused injury to farmers. (working inside U.S. Gimbaru training camp)	Tear gas			Chem weapons
Jordan	Amareen said demonstrators, demanding the downfall of Prime Minister Abdul-Karim al-Kabariti who they blamed for the explosive decision to raise bread prices, had asked for the immediate release of their arrested colleagues. Security forces, led by the intensely loyal Badia troops who were rushed to the city, had fired both tear gas and live ammunition to disperse demonstrators. (Tension in Jordan's Karak after bread riots. Reuter Information Service. Aug 16, 1996).	Tear gas			live ammo
Kenya	In Nairobi, many of the civilians who were not participating in the demonstrations were seized at random, battered with pick axe handles and robbed by military, police and KenyaUs feared paramilitary General Service Unit. ... that at least four people were killed when police broke up protests, badly beating organisers of opposition-backed rallies and firing tear gas, rubber bullets and live rounds. ...Witnesses said that the General Service Unit and police fired tear gas inside Nairobi's All Saints Cathedral and beat several demonstrators, including Muturi Kigano, Chairman of the unregistered Safina party, and opposition members Kamau Icharia and Njoka Mutani. (Kenya: Police Storm Cathedral. Anglican Communion News Service 11th July 1997).  The security forces are also accused of taking their rough ways out into the streets as well. "Demonstrations, public meetings and strikes have been violently broken up by the police using batons, tear gas and sometimes shooting into the crowd which has resulted in injury and sometimes death," it says. [IPS December 22, 1995. KENYA-Human Rights: Torture common, says Amnesty]  Beatings and severe ill-treatment by police are common in Kenya. Demonstrations, public meetings and strikes have been violently broken up by the police using batons, tear gas and sometimes shooting into the crowd which has resulted in injury and sometimes death. On 10 June 1995, riot police reportedly beat two Kenyan opposition members of parliament with gun butts before detaining them, apparently in an attempt to stop them from attending a by-election in Mombasa. [Kenya: Torture Compounded by Denial of Medical Care. Amnesty International. 22 <sup>nd</sup> December 1995]	Tear gas	batons rubber bullets	water cannon	gun butts live ammo
Malawi	On 28 April, Mike Gondwe was arrested in Mzuzu while addressing a meeting of public servants. The union feared he would be tortured. He was held in police custody and no-one was allowed to see him. In Karanga, police attacked a peaceful gathering of striking public servants with teargas and live ammunition. (ICFTU Annual Survey of Violations of Trade Union Rights - 1998).	Tear gas			live ammo
Malaysia	The deaths of eight Indonesians in a repatriation operation in the early hours of this morning raise serious questions about the process, Amnesty International declared today. The disturbance erupted as Malaysian police officers, reportedly armed with batons, water cannon and tear gas, prepared to forcibly repatriate hundreds of Indonesians from Aceh province from four detention camps around the country. [Amnesty International News Release. AI INDEX: ASA 28/05/98. 26 MARCH 1998. Malaysia: Deaths raise questions over repatriation process.]	Tear gas	batons	water cannon	deaths



Mexico	In one of the most dramatic confrontations since the EZLN rebellion broke out in 1994, about 300 Tzeltal campesinos--armed with flowers and wooden sticks and supported by 60 students and teachers from Mexico City and popular actress Ofelia Medina- confronted about 500 elite army troops in the community of Amador Hernandez, located in the Amador Valley in the rebel municipality of Emiliano Zapata and the official municipality of Ocosingo, near the Montes Azules biosphere preserve in the Lacandon Jungle. As many as 15 people had been injured on both sides as of Aug. 18, mostly because of tear gas used by the military. [La Jornada (Mexico) 8/19/99, 8/21/99; Hoy (NY) 8/19/99 from EFE]	tear gas			
Mongolia	To disperse the demonstrators, the Chinese police and military used high pressure water and tear gas. Witnesses say that many people were beat to death and about 500 people were arrested. Next day, the Chinese soldiers used machine guns both from air and ground killing many demonstrators. [The World UYGHUR Network News, 11 March 1997. UYGHUR Demonstrators in Ghulje demanded release of the arrested relatives.	Tear gas		water cannon	machine guns
Nicaragua	Two deaths over the weekend, hundreds of injuries ranging from tear gas inhalation to bullet wounds and scores of arrests were blamed on the strike, the National Police and Red Cross said.... Roberto Gonzales, a 23-year-old law student, was killed by a police officer's rubber bullet on April 20 when students occupied Nicaragua's Central Bank. (Reuters 4 May 1999).  The confrontations took place after protests began with a peaceful takeover of the Central Bank building by the students. Police moved in to remove students from the building, using tear gas and shooting rubber bullets, one of which killed Gonzalez. Previously students had carried out three protest marches in the city resulting in some 22 students being wounded in confrontations with the police. ((La Nacion from AP, AFP, Costa Rica, 4/21/99; El Nuevo Diario, Managua, 4/21, 22/99; Agencia Informativa Amarc-Pulsar, Ecuador, 4/22/99; El Nuevo Herald from AFP, Miami, 4/23/99; El Diario La Prensa from AP, NYC, 4/23/99)  According to a 1992 ICFTU publication, a protest demonstration by workers at the E Chamorro Industry in Nicaragua on 15/10/91 was 'broken up violently' by a national police unit using tear-gas and live ammunition. Several people were reported to have been arrested in the process. (Survey on Violations of Trade Union Rights 1992 (01/06/1992). International Confederation of Free Trade Unions).	Tear gas	rubber bullets		live ammo
Nigeria	The Shiite followers, mostly youths and some women dressed in black robes and red caps, gathered at dawn, then advanced on the main police positions about noon. The police responded with tear gas and gunfire. Police said two of their officers were killed by rioters. Seven Shiites were killed, including four shot to death when they approached police headquarters carrying guns, and a civilian was shot and killed by a stray bullet, according to reports from witnesses and hospital officials. (Associated Press News Service. 10 Dead In Nigeria Protest. September 18, 1996).  On Tuesday, June 22, news raced through Ogoni concerning the arrest of MrSaro-Wiwa. In spontaneous demonstrations, in Bori, a major Ogoni city, hundreds of Ogoni turned out, demanding the release of their leader. Nigerian police opened fire on the demonstrators with live ammunition and tear gas. The demonstrators were quickly dispersed with numerous people injured. (UNPO Press Release. June 29 1993. Ogoni Demonstrate as Leader Arrested and Army Cracks Down.	tear gas			live ammo
Palestine	According to affidavits taken by fieldworkers working for LAWE, witnesses stated that early in the morning of November 10, Israeli soldiers began concentrating on the borders of Der Qadees village near Ramallah where the protest was set to be held. When the villagers started their protest soldiers began to shoot tear gas bombs and rubber bullets. Despite the tear gas and bullets, the protesters continued their demonstration. The Israeli soldiers then began to shoot live ammunition bullets at close range at the demonstrators. Mr. Amira was killed instantly by a bullet that was fired at him only 12 meters away. The bullet penetrated his heart and killed him. Twelve other Palestinians were injured from the live ammunition and rubber bullets. [The Peace Process? 1 Palestinian shot dead, 12 injured defending land against confiscations and settlement expansion. 11 November, 1996. LAWE - The Palestinian Society for the Protection of Human Rights and the Environment)	Tear gas	Rubber bullets		Live ammo
Papua New	PORT MORESBY: Police yesterday fired teargas into a crowd of more than 500 Gerehu residents planning to march on Papua New Guinea's	Tear gas			live

Guinea	National Parliament to protest against the recent pay-back killing of four schoolboys at Dogura Beach here.  Eyewitnesses said that police also fired live bullets overhead when the crowd defied the police announcement that the protest march was illegal and should not proceed. More than 50 armed policemen fired several tear gas canisters into the crowd which consisted of unemployed youths, schoolboys and women, including the mother of one of the murdered boys. (Tear gas fired on demonstration. The National (PNG), 14/11/96).				ammo
Paraguay	A 23-year old who witnessed the killing of Ortiz told a local television station that an officer who had been hit with slingshots "pulled out a regulation weapon and fired it" at demonstrators, killing Ortiz. (The TV station did not show the face of the witness, and his identity is being kept secret.) According to the witness, the "blue helmets" then rushed the crowd, first throwing rocks then using tear gas and water cannons. They advanced to where Ortiz lay, and trampled her without realizing she was already dead. After reviewing a lineup of 132 police agents who participated in the clash, the witness said none of them was the agent who fired the bullet that killed Ortiz. He insists he will be able to identify the killer when he sees him. (LR (Uruguay) 5/19/99 from IPS).	Tear gas		water cannon	live ammo
Peru	The police retaliated with tear gas and gunfire; campesino Miguel Sol was shot to death. [La Republica (Peru) 9/7/97 from AFP]	Tear gas			Gunfire
Rwanda	We saw the assailants arrive at the church with their machetes and the chorus was "exterminate them, finish them off".  It is at that point that they tried to force open the doors of the church. They were saying that they didn't want to throw grenades into the inside. They wanted to force the doors, to enter and to massacre us with their machetes. From where we were on the inside, we preferred to be killed by bullets rather than by machetes. We took the decision not to allow the doors to be opened. They tried to force open the doors, and as they weren't able to, they decided to throw in hand grenades and tear gas to force us to come out. But since we knew that death awaited us whatever the case, we stayed inside. Many people died from suffocation caused by the gas, but we still stayed inside. After they had forced open the doors, they started using their arms and firing at us. In the crowd, many people were killed. Many were even trampled underfoot on the inside and the church was covered with blood". (Ubutabera. Independent Newsletter on the International Criminal Tribunal for Rwanda. Arusha - March 16, 1998 - No. 32).  Within hours parts of Kibuye town were ablaze, and the homes of members of the Tutsi ethnic minority group began to be systematically destroyed. Members of 'Interahamwe', the police and local government officials roamed through Kibuye over the following days, burning houses and killing. Women found sheltering in the parish church were raped, then pieces of wood were thrust into their vaginas, and they were left to die slowly. Tutsi sheltering in churches and municipal buildings were herded into Kibuye stadium. More than 15,000 people were crammed into the stadium. The prefect fired the first shots into the crowded arena. Then young and old alike were shot dead or hacked to death with machetes. Tear gas canisters were thrown to flush out any survivors. [ <a href="http://www.amnesty.se/women/242e.html">http://www.amnesty.se/women/242e.html</a> . December 20, 1994]	Tear gas		machete	hand grenade
Saudi Arabia	At approximately 9pm armed soldiers in tanks and jeeps surrounded the compound while refugees chanted slogans and threw empty plastic bottles and other objects at the soldiers over the fences. According to eye witness accounts received by Amnesty International, Saudi Arabian soldiers first used tear gas but later resorted to live ammunition, killing at least two people, but possibly as many as five, and wounding at least ten others. Among those killed was Abbas 'Alwan Gutfan al-Badari, born in 1965 in alQadisiyya Province, and a former soldier in the Iraqi army. He was in his tent when he was hit by two bullets in the chest. His brother Hussein was wounded in the shooting and was hospitalized for approximately 20 days. 'Abdul-Khaleq 'Abbas 'Ali al-Khaffaji was also killed as a result of the shooting. He was reportedly shot in the back on the same night. According to his death certificate, a copy of which was obtained by Amnesty International, he died in the camp clinic on 1 October 1991 from internal bleeding.	Tear gas			live ammo
Swaziland	A stay-away was held on 13-15 October. The police and the army were deployed in force. Teachers began a strike on 13 October over a pay rise. On 27 October, there was a mass march of SFTU members, professional associations, parents, and students. On the following day the marchers went to the airport where the King was arriving home from the Commonwealth Summit in Scotland. The security forces shot at the	Tear gas			live ammo

	crowd with live ammunition and tear gas. Many had to go to hospital. ( ICFTU Annual Survey of Violations of Trade Union Rights - 1998).				
Switzerland	DAVOS: The police fired tear gas and warning shots on Saturday in an effort to disperse more than 1,000 anti-free trade activists at a gathering of the world's political and corporate elite in this secluded Alpine resort. (Warning shots, teargas as protesters storm Davos. Times of India. January 31, 2000)	tear gas			live ammo
Turkestan	China's repressive nature came to the fore again in the beginning of February 1997, when -- according to a report by Uighur expatriates in the US -- Chinese police and armored troops killed some 400 people, including women and children, in the East Turkestan town of Yining. On 5 and 6 of February 1997, there were major demonstrations in the town to demand the release of people who were detained in a mass arrest during the previous days. On the first day, the police first used high pressure water hoses and tear gas to disperse the crowds. However, since the temperatures were far below freezing, many people froze to death. The police then started shooting. In total, some 240 people died the first day. [Taiwan Communique no.75, April 1997].	Tear gas		water cannon	
United Kingdom	Diarmuid O'Neill was apparently shot six times by two officers from Scotland Yard's tactical firearms group, SO19. Initial statements by the police justified the death of Diarmuid O'Neill by stating that he was killed during a shootout between the police and the arrested suspects. However, subsequent reports have confirmed that Diarmuid O'Neill and the other suspects were unarmed. The British Government needs to account for the initial misleading statement and its justification of killing an unarmed man. Amnesty International further calls for an investigation into the treatment received by Diarmuid O'Neill in the wake of the shooting. The photos of smeared blood on the front steps of the house would seem to indicate that Diarmuid O'Neill was dragged, seriously wounded, down the steps to the pavement, rather than being treated where he lay or removed on a stretcher. Another aspect of this case which requires clarification is the reported use of CS gas during the operation: why was CS gas used and what effects would that amount of CS gas used have had on Diarmuid O'Neill's behaviour/mental reasoning? (Statement of Ms. Maryam Elahi, Amnesty International USA testimony before the House International Relations Subcommittee on International Operations and Human Rights on the human rights situation in Northern Ireland).	CS gas			live ammo
United States of America	"The police were using concussion grenades. They were... shooting tear gas canisters directly at protesters' faces. They were using rubber bullets. Some of the damage I saw from these rubber bullets took off part of a person's jaw, smashed teeth... There are people who have been... treated for plastic bullet wounds. Lots of tear gas injuries, lots of damage to [the] cornea, lots of damage to the eyes and skin." (Media Advisory: WTO Coverage: Prattle in Seattle. December 7, 1999. Fairness & Accuracy in Reporting Media analysis, critiques and news reports).  The CS had been disseminated by FBI agents riding in Bradley Armoured Fighting Vehicles using M79 grenade-launchers to fire through the compound's windows something approaching 400 Ferret rounds, which are 40mm bursting munitions containing a solution of CS in dichloromethane: a total discharge of some 1.9 and 33 kilograms respectively of CS and solvent. CS had also been disseminated from spray booms on two specially rigged Combat Engineering Vehicles, which are modified tanks that were used in the assault to break through walls; on the booms were mounted ISPRA Protectojet Model 5 Anti-Mob Fog Projectors, of which six were used. Dr McCarthy writes: "our research could uncover no published account of a greater amount [of chemical agent] ever being used against civilians by US law enforcement". He ends: "Unfortunately, given the extremely high levels of gas exposure, it is entirely possible that innocent parties in the compound were unable to save themselves from the final conflagration due to the effects such overwhelming gas dosages could have." [2] During the hearings, there is much testimony on CS gas, its effects, and who knew what about them. Dr David Upshall of the UK Chemical & Biological Defence Establishment reportedly testifies that his study of FBI data on the siege led him to conclude that "the concentrations of CS achieved inside the building were not excessive". He goes on to say that he and his colleague Dr Paul Rice, an authority on CS, sincerely believe "that CS played no part in these deaths". [3] [2] Roger L McCarthy, Washington Times, 21 Jul 95, p A21, "Our investigation of the Waco fire", via Nexis. [3] Glenn F Bunting and David Willman (from Washington), Los Angeles Times, 22 Jul 95, p 1, "Plan to use tear gas at WEaco was questioned, panel told", via Nexis; Suman Bandrapalli, Christian Science Monitor, 26 Jul 95, "Made infamous in FBI Waco raid, CS tear gas hovers at legal fringe", via Nexis; AP from Washington, as in Boston Globe, 27 Jul 95, p 18, "Use of gas at Waco debated"; David Johnston (from Washington), New York Times, 27 Jul 95, p 1, "Davidians' offer was seen as ruse"; William EClayton, Jr (from Washington), Houston Chronicle, 27 Jul 95, p 1, "Waco probe targets use of tear gas", via Nexis; Ian Brodie, Times (London), 28 Jul 95, p 10, "UK expert rejects Waco gas claims"; St Louis	tear gas	rubber bullets		live ammo

	Post-Dispatch, 28 Jul 95, p 3A, "Reno defends use of gas at Waco", via Nexis				
Venezuela	<p>On Aug. 26, the Venezuelan National Guard violently attacked residents of Mapauri, a 50-family Pemon indigenous community located inside the Canaima National Park in Bolivar state. Three people, including a 13-year old boy, were sent to the hospital with injuries from rubber bullets and tear gas. The National Guard remains in the area, and there are fears that more violence will occur. ( [FIB/AW 8/26/98; El Universal (Caracas) 8/26/98]</p> <p>In October during a dispute with some inmates, members of the National Guard fired tear gas canisters into a closed cellblock of La Planta prison in Caracas, which started a fire that killed 25 trapped inmates. The authorities charged three National Guard members and one prison guard with manslaughter. The prison guard, who applied the lock, testified that the National Guard prevented him from opening the cell when the fire started. Their trial had not been held by year's end. (U.S. Department of State Venezuela Country Report on Human Rights Practices for 1996 Released by the Bureau of Democracy, Human Rights, and Labor, January 30, 1997). "[The guards] would never let him leave La Planta on his trial date because we couldn't afford to pay them off," she said. "If you're poor, there is no justice in this country. Now they've burned him to death." The Oct. 22 fire started after guards threw tear gas canisters and possibly incendiary bombs into a locked cell holding 150 inmates. The prisoners' bodies were found piled one on top of another, suggesting the inmates had attempted to escape through a small gap in the roof, said La Planta's chaplain, Aurelia Ferrin. "What happened there was murder," he added. [Newsday November 7, 1996, page(s) A24. Abuses Abound in Venezuelan Prisons Human-rights groups report overcrowding, deadly riots, corruption]</p> <p>Members of the National Guard (armed prison guards from the Venezuelan army) shot tear gas canisters and live ammunition into the inmate's cells in the Centro de Reeducación y Trabajo Artesanal de El Paraíso, known as "La Planta", 6.30 am yesterday. The indiscriminate attack took the victims by surprise. A fire took hold and serious overcrowding led to the rapid spread of flames, killing dozens trapped inside their cells, although at least three died from gunshot wounds caused by firearms used by the guards. (Amnesty International. Venezuela: Chronicle of a massacre foretold. 24 October 1996).</p>	Tear gas			live ammo
Vietnam	<p>When the U.S. began using tear gas in Vietnam, Secretary of State Dean Rusk announced that it would only be employed in situations comparable to domestic crowd control, and not in the course of ordinary military operations. Then the U.S. argued that tear gas could save lives -- when civilians and enemy soldiers were commingled in a tunnel, for example, tear gas could ferret them all out, allowing the civilians to be separated from the military personnel. But tear gas was in fact routinely used to enhance killing -- as when it was dropped by helicopter on underground bunkers and then followed by B-52 attacks with conventional ordnance, a tactic that did not distinguish between soldiers and noncombatants. [The Spread of Conventional and Unconventional weapons. <a href="http://www.zmag.org/zmag/articles/ShalomWeapons.html">http://www.zmag.org/zmag/articles/ShalomWeapons.html</a>]</p> <p>730400 USA. Army Deseret Test Center publishes an update of its 1969 report on operational aspects of agent CS, reviewing and describing Vietnam experience. Some 25 different CS munitions/systems had been used thus far in the Vietnam war (see table on pp2-3). Approx 8 million lbs of CS1 and 7 million lbs of CS2 were shipped to Vietnam, as well as CS-filled items. "The greatest amount of agent CS used in Vietnam was bulk CS1 and CS2 used in the role of terrain restriction, LOC interdiction and tunnel and bunker restrictions. Huge amounts of CS were expended in an attempt to deny the enemy use of certain areas and facilities, restrict his movement along roads and trails, and generally harrass him" (p 107). "In spite of extensive use of bulk CS in the terrain restriction role, there seems to be little evidence of its effect on the enemy... In the absence of the observed effectiveness of CS used in this role, the increased demand by the troops in the field will have to serve as an indication of effectiveness" (p 109) "A role for the use of CS which has been widely proclaimed was that one used in populous areas where civilians were located or where civilians would be mixed with the enemy. It was thought that CS could be used to prevent civilian casualties in these situations; however, this has not been the case. Reports of the use of CS against noncombatants or to save civilians were not available. The reason that CS was rarely employed against mixed enemy and civilian groups was because these groups were rarely encountered. Troops in the field indicated that before a battle develops, civilians leave the area. Only when a firefight develops suddenly will civilians be involved. In fact, it was pointed out that a sure indication of impending trouble for a patrol is the absence of villagers from view. It would seem that the use of agent CS in the noncombatant role has been rare in Vietnam" (p 116).</p>	Tear gas CS			B52 bombers
Zambia	The statement came after police snipers fired at two opposition leaders as they attempted to leave a political rally on 23 August. The bullets grazed the head of former president Kenneth Kaunda, who is now the leader of the United National Independence Party (UNIP), and struck	Tear gas			Live ammo

	<p>Liberal Progressive Front leader Roger Chongwe in the cheek and neck. Several other people were also injured by police, who apparently used live ammunition and tear gas to disperse a crowd of hundreds of people, arrested 21 people and destroyed the podium at the rally site. According to Amnesty International, this was just the latest incidence of the Zambian police failing to act in a politically neutral manner [AI INDEX: AFR 63/09/97 25 August 1997 ZAMBIA: Police shooting of opposition leaders needs urgent investigation]</p>				ammo
Zimbabwe	<p>In December the authorities flouted a High Court order not to block a planned demonstration in Harare, the capital, to mark a one-day nationwide general strike. Police used tear-gas and batons to disperse tens of thousands of people who gathered peacefully to protest against proposed new taxes and violent clashes ensued. The Home Affairs Minister stated that police would shoot anyone demonstrating against the tax rises, and the Commissioner of Police reportedly said that the strike organizers, the Zimbabwe Congress of Trade Unions (ZCTU), would be crushed if the strike went ahead. Less than 48 hours later, several people assaulted and severely injured ZCTU Secretary-General Morgan Tsvangirai in an incident later condemned by President Mugabe. The ZCTU alleged ZANU-PF involvement in the attack. (AI Report 1998: Zimbabwe).</p>	Tear gas			Threat to shoot





**APPENDIX 7**

<b>APPENDIX 7 : WORLDWIDE DEPLOYMENT OF CROWD CONTROL WEAPONS. 1990 - 2000.</b>					
	Deployment				
Country	Chemical Irritant	Kinetic weapon	Water Cannon	Stun technology	Other
<u>Europe</u>					
Austria	Tear gas	ROTA Ammunition (Prisons)	√	√	
Belgium	Tear gas Pepper Spray	Riot guns	√		
Cyprus	Tear gas		√	√	
Denmark	Tear gas. CS.	Rubber baton gun Tear gas gun			
Finland	Tear gas				
France	Tear gas. CS	Rubber bullets	√	√	
Germany	Tear gas	Grenade launchers	√	√	
Greece	Tear gas	Rubber bullets	√	√	
Ireland	Tear gas (CS - Military)	Riot guns (Military)			
Italy	Tear gas				
Luxembourg	CS. Pepper Spray	Riot gun Tonfa			
Malta	CS Grenade				
Netherlands	Pepper Spray Tear gas		√		
Norway					
Portugal					
Spain	Self-defence sprays (Police)	√			
Sweden					
Switzerland	Tear gas Pepper spray	Rubber bullets	√		
Turkey	Tear gas	Rubber bullets	√	√	
United Kingdom	CS Sprays, CSM cartridges, CR	Plastic bullets Batons	√		
<u>Africa</u>					
Algeria	Tear gas		√	√	
Angola	Tear gas			√	



**APPENDIX 7 : WORLDWIDE DEPLOYMENT OF CROWD CONTROL WEAPONS.  
1990 - 2000.**

Country	Deployment				
	Chemical Irritant	Kinetic weapon	Water Cannon	Stun technology	Other
Burkina Faso	Tear gas				
Cameroon	Tear gas				
Central African Republic	Tear gas				
Congo-Brazzaville	Tear gas				
Cote d'Ivoire	Tear gas				
Djibouti	Tear gas				
Gambia	Tear gas	Rubber bullets			
Ghana	Tear gas		√		
Kenya	Tear gas	Rubber bullets	√		
Lesotho	Tear gas				
Malawi	Tear gas				
Mali	Tear gas				
Morocco	Tear gas	Baton rounds			
Niger	Tear gas				
Nigeria	Tear gas	Rubber bullets			
Rwanda	Tear gas				
South Africa	Tear gas	Rubber bullets	√	√	
Sudan	Tear gas			√	
Swaziland	Tear gas				
Tanzania	Tear gas gas grenades	crowd control ammunition	√		
Togo	Tear gas				
Zaire (DRC)				√	
Zambia	Tear gas				
Zimbabwe	Tear gas				
<u>Asia / Pacific</u>					
Australia	Tear gas Pepper Spray				Nets
Bangladesh	Tear gas	Rubber bullets	√	√	
Brunei	CS	Plastic bullets Rubber bullets Wooden bullets Riot guns	√		

**APPENDIX 7 : WORLDWIDE DEPLOYMENT OF CROWD CONTROL WEAPONS.  
1990 - 2000.**

Country	Deployment				
	Chemical Irritant	Kinetic weapon	Water Cannon	Stun technology	Other
Cambodia				√	
China	Tear gas		√	√	
Guam	Tear gas				
Hong Kong	Tear gas Pepper Foam				
India	Tear gas				
Indonesia	Tear gas	Plastic bullets	√	√	
Japan	Tear gas				
Malaysia	Tear gas	Batons	√		
Mongolia	Tear gas	Rubber bullets			
Pakistan	Tear gas				
Papua New Guinea	Tear gas				
Philippines	Tear gas		√		
Solomon Islands	Tear gas				
South Korea	Tear gas				
Sri Lanka	Tear gas	Rubber Bullets	√	√	
Thailand	Tear gas				
Turkestan	Tear gas		√		
Vietnam				√	
<u>Eastern Europe</u>					
Albania	Tear gas	Truncheons			
Armenia	Tear gas		√		
Belarus	Tear gas				
Bosnia	Tear gas				
Bulgaria	Tear gas			√	
Georgia	Tear gas				
Hungary	Tear gas	Rubber Truncheons			
Montenegro	Tear gas				
Romania	Tear gas				
Russian Federation	Tear gas			√	
Yugoslavia	Tear gas		√	√	

**APPENDIX 7 : WORLDWIDE DEPLOYMENT OF CROWD CONTROL WEAPONS.  
1990 - 2000.**

	Deployment				
Country	Chemical Irritant	Kinetic weapon	Water Cannon	Stun technology	Other
<u>Middle East</u>					
Bahrain	Tear gas	Rubber bullets		√	
Egypt	Tear gas			√	
Iran	Tear gas				
Iraq	Tear gas				
Israel	Tear gas	Plastic bullets Rubber bullets	√		
Jordan	Tear gas	Plastic bullets			
Lebanon	Tear gas		√	√	
Palestine	Tear gas	Rubber bullets			
Saudi Arabia	Tear gas			√	
<u>Latin America &amp; Caribbean</u>					
Anguilla	2x 1.5" gas guns supplied to Police in 1970's.				
Antigua	Tear gas				
Argentina	Tear gas	Rubber bullets	√		
Bahamas	Tear gas				
Bermuda	Tear gas				
Bolivia	Tear gas (CS, CN)	Rubber bullets			
Brazil	Tear gas	Rubber bullets			
Chile	Tear gas Pepper spray	Rubber bullets	√		
Colombia	Tear gas. CS				
Costa Rica	Tear gas				
Dominica	Tear gas				
Dominican Republic	Tear gas				
Ecuador	Tear gas		√		
El Salvador	Tear gas Pepper Spray	Rubber bullets			
Guatemala	Tear gas				

**APPENDIX 7 : WORLDWIDE DEPLOYMENT OF CROWD CONTROL WEAPONS.  
1990 - 2000.**

Country	Deployment				
	Chemical Irritant	Kinetic weapon	Water Cannon	Stun technology	Other
Guyana	Tear gas				
Haiti	Tear gas				
Honduras	Tear gas	Batons			
Jamaica	Tear gas				
Mexico	Tear gas		√	√	
Nicaragua	Tear gas	Rubber bullets		√	
Panama	Tear gas				
Paraguay	Tear gas		√		
Peru	Tear gas				
Puerto Rico	Tear gas				
Suriname	Tear gas				
Uruguay				√	
Venezuela	Tear gas		√		
<u>North America</u>					
Canada	Tear gas Pepper spray			√	
United States	CS, CN, Pepper Spray, MACE	Plastic bullets Batons Side handle	√	√	



APPENDIX 8

APPENDIX 8 : EUROPEAN INVENTORY OF CROWD CONTROL TECHNOLOGIES.												
Country	Sector	Chemical Irritants					Kinetic ammunition / weapons				Electro - Shock	
		Tear gas	CS	CR	CN	Pepper Spray / OC	Plastic Baton rounds	Wooden baton rounds	Rubber baton rounds	Water Cannon	Hand held: Stun guns, Tasers, shields	Vehicle mounted
Austria	Civilian	√									x	
	Police / Prison	√					ROTA ammunition (Prisons)			√ <sup>1</sup>		
	Military											
Belgium	Civilian											
	Police / Prison	√	√			√	√ Riot gun			√		
	Military											
Denmark	Civilian	x <sup>2</sup>										
	Police / Prison	Tear gas +gun						Rubber baton gun				
	Military		√	x	x			Rubber baton				
	Civilian							Flashball		√		

**APPENDIX 8 : EUROPEAN INVENTORY OF CROWD CONTROL TECHNOLOGIES.**

Country	Sector	Chemical Irritants					Kinetic ammunition / weapons				Electro - Shock	
		Tear gas	CS	CR	CN	Pepper Spray / OC	Plastic Baton rounds	Wooden baton rounds	Rubber baton rounds	Water Cannon	Hand held: Stun guns, Tasers, shields	Vehicle mounted
France	Police / Prison	√	√						Rubber bullets	√		
	Military	√	√									
Finland	Civilian	x										
	Police / Prison	√										
	Military											
Germany	Civilian										√	
	Police / Prison	√					Grenade launcher			√		
	Military											
Greece	Civilian											
	Police / Prison	√							√	√		
	Military											
Ireland,	Civilian											

**APPENDIX 8 : EUROPEAN INVENTORY OF CROWD CONTROL TECHNOLOGIES.**

APPENDIX 8 : EUROPEAN INVENTORY OF CROWD CONTROL TECHNOLOGIES.												
Country	Sector	Chemical Irritants					Kinetic ammunition / weapons				Electro - Shock	
		Tear gas	CS	CR	CN	Pepper Spray / OC	Plastic Baton rounds	Wooden baton rounds	Rubber baton rounds	Water Cannon	Hand held: Stun guns, Tasers, shields	Vehicle mounted
Republic	Police / Prison	x	x	x	x	x						
	Military		√				Riot guns					
Italy	Civilian											
	Police / Prison	√					√					
	Military											
Luxembourg	Civilian											
	Police / Prison		√			√	Riot gun					
	Military											
Netherlands	Civilian					x						
	Police / Prison					√ <sup>3</sup>				√		
	Military											
	Civilian											



**APPENDIX 8 : EUROPEAN INVENTORY OF CROWD CONTROL TECHNOLOGIES.**

Country	Sector	Chemical Irritants					Kinetic ammunition / weapons				Electro - Shock	
		Tear gas	CS	CR	CN	Pepper Spray / OC	Plastic Baton rounds	Wooden baton rounds	Rubber baton rounds	Water Cannon	Hand held: Stun guns, Tasers, shields	Vehicle mounted
Norway	Police / Prison											
	Military											
Portugal	Civilian											
	Police / Prison											
	Military											
Spain	Civilian											
	Police / Prison	√ <sup>4</sup>					√ <sup>5</sup>		√			
	Military											
Sweden	Civilian		√ <sup>6</sup>									
	Police / Prison		√			x <sup>7</sup>						
	Military											

APPENDIX 8 : EUROPEAN INVENTORY OF CROWD CONTROL TECHNOLOGIES.												
Country	Sector	Chemical Irritants					Kinetic ammunition / weapons				Electro - Shock	
		Tear gas	CS	CR	CN	Pepper Spray / OC	Plastic Baton rounds	Wooden baton rounds	Rubber baton rounds	Water Cannon	Hand held: Stun guns, Tasers, shields	Vehicle mounted
Switzerland	Civilian										x	
	Police / Prison	√	√			√	<sup>8</sup>		√ <sup>9</sup>	√		
	Military											
United Kingdom	Civilian	x	x <sup>10</sup>	x	x	x	x	x	x	x	x	x
	Police / Prison		√				√			√	√ <sup>11</sup>	
	Military		√	√			√					

Legend

√ = Reports of holdings, deployment or use.    x = Reported as not being held, or banned

Notes

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1. Focus. Haider's people: Haunted by History. The rioting in the streets of Vienna is no more likely to diminish support in Austria for Jorg Haider's far-Right Freedom Party than Brussels and its boycotts. Julian Coman goes to the heart of the neo-Nazi revival. The Sunday Telegraph (UK) p24; 6 February 2000. "Viennese police used water cannon for the first time in decades".
  2. Prohibited in 1989.
  3. Divisie Koninklijk en Diplomatieke Beveiliging" (Royal and Diplomatic Security division)
  4. Self defence sprays
  5. "Whitehall had reported that the bullets were also in service in Belgium and Italy; the prospective EEC partner Spain had used them with two reported fatalities." Plastic Bullets - Plastic Government. Deaths and Injuries by Plastic Bullets August 1981 - October 1982. Fr Denis Faul, Fr Raymond Murray. p33.
  6. Only for women at risk from male violence and having passed a certified course of training.
  7. OC was the favoured chemical but was replaced by CS because of concerns that OC could cause cornea damage.
  8. "They [plastic bullets] had been banned by the Swiss Authorities after two youths were blinded in Zurich". Plastic Bullets - Plastic Government. Deaths and Injuries by Plastic Bullets August 1981 - October 1982. Fr Denis Faul, Fr Raymond Murray. p32.
  9. "Police used pepper spray and rubber bullets against a handful of hardcore protesters"  
[news.bbc.co.uk/1/hi/english/business/newsid\\_623000/623585.stm](http://news.bbc.co.uk/1/hi/english/business/newsid_623000/623585.stm) 30 January 2000.
  10. Includes CS Sprays, CSM cartridges.
  11. Authorised for use against "dangerous dogs"

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