Pistol and Submachine Gun Ammunition
Calibre 9x19
Pistol and Submachine Gun Ammunition, Calibre 9x19

9x19, 9mm Luger or 9mm Parabellum is the most widely used pistol calibre in Europe and many other countries and is in service all over the world.

For army purpose the sidearm serves as a backup weapon or for special operations at close range. These cartridges need to work in every environment.

Law Enforcement units use a handgun as their primary weapon. RUAG Ammotec deformation ammunition operates as a multi-purpose tool, offering precisely defined stopping power and the highest possible prevention of collateral damage.

Thanks to the SINTOX®-Technology, shooters and shooting range personnel are not exposed to the harmful effect of heavy metals. A major part of the products are lead-free and thus environmentally-friendly.

RUAG Premium Quality Ammunition

RUAG Ammotec stands for state-of-the-art ammunition technology, highest precision and absolute functional reliability. It develops and produces high-performance, small calibre standard and special ammunition for the Armed Forces, Law Enforcement authorities and the civilian market, as well as customer-specific components for the industry.

RUAG Ammotec emerged as an international company in spring 2002 following the merging of the small-calibre activities of the Swiss company RUAG and the German company Dynamit Nobel. This created one of the world’s leading ammunition manufacturers. RUAG Ammotec has production plants in Switzerland, Germany, Sweden, Hungary and the USA, and subsidiary sales and distribution companies in Belgium, France, Great Britain and Austria.

RUAG: a reliable partner since 1863

A pioneering spirit and innovation characterise the history of RUAG Ammotec. The original company began manufacturing ammunition for the military and police forces 150 years ago. It has also manufactured top brand ammunition for hunters and sports shooters for many years.

RUAG Ammotec strives to maintain and further expand its recognised position on the international market. By continually developing its products, it meets the high standards, requirements and expectations of its customers and will be an innovative and reliable partner in the future.
Safety for Officials and Bystanders

Conventional full metal jacket bullets cannot optimally meet the requirements of today's service ammunition for authorities. Low energy transfer in the target medium means they over penetrate soft targets much too easily, and thus endanger close bystanders. The increasing magnitude of violence in urban areas necessitates ammunition which is able to stop attackers, but without permanently injuring them.

RUAG Ammotech deformation ammunition is designed so that a large but limited energy transfer, of not more than 60 J/cm, takes place in the target. The bullets have a precisely defined penetration depth of at least 20 cm and maximum 35 cm, which prevents over penetration.

The bullet does not fragment; at least 98% of the residual body remains intact (100% in gelatine).

A medical X-ray contrast medium is enclosed with the plastic tip of the ACTION line.

**RUAG deformation ammunition, a reliable partner**
- Reduced risk of over penetration
- Optimum stopping power
- Defined energy transfer
Effective on Hard, Combined and Elastic Targets

RUAG Ammotec deformation ammunition* is designed for daily use by law enforcement officers and other security forces.

**Hard / combined targets**
Because of the effect of the plastic bullet tip of the ACTION line and the bullet design of the SECA, no material penetrates the bullet’s active area when hitting hard targets. Therefore there is no significant bullet deformation, but the bullet is axially compressed in the active area. This enables good penetration (min. 41 mm sheet steel plates with a distance of 20 mm).

**Glass**
When shooting at a target behind angled glass, the bullet still achieves a penetration depth of between 10 cm and 30 cm into a soft target. The deflection varies only within a 25° point angle cone based on the bullet-hole direction and bullet weight loss is less than 10 percent.

**Tyres**
A modern police bullet must be capable of deflating a car tyre and immobilising a vehicle as quickly as possible. Full metal jacket bullets leave a self closing flap of rubber, allowing the vehicle to continue driving for several minutes. A RUAG deformation bullet punctures a hole in the tyre, deflating it in less than 10 seconds.

*according to the German Technical Guideline for low-polluting duty ammunition for the Police
On Duty – Less Backsplash and Ricochet

In urban areas, backsplashes and ricochets pose a significant risk for collateral damage.

Utilising suitable metal alloys all RUAG Ammotec ammunition is designed to have a minimal ricochet tendency. Deformation bullets, although they consist of solid material, have no more residual energy than conventional full metal jacket lead core bullets due to the optimised bullet shape.

In Training – No Backsplashes or Ricochets with Frangible Ammunition

Frangible COPPER-MATRIX bullets are specially developed for use in police, military and security training. Frangible ammunition provides a safe, effective and realistic shooting experience. It is ideally suited for tactical CQB training, allowing the teams to engage targets at close range without the risk of being hit by backsplashes or ricochets.

Made from copper and polymer, Frangible COPPER-MATRIX is completely lead-free, environmentally-friendly and fully recyclable.

**RUAG frangible ammunition for realistic training**
- Reduces backsplashes and ricochets
- “target friendly”, no damage to shooting range facilities
- Non-toxic, lead-free ammunition
The conditions in which Armed Forces and Authorities work require ammunition which is fully functional and reliable even in extreme conditions such as heat, cold, humidity or dirt. Seals on the primer and case mouth, as well as temperature-stable propellants, ensure functional reliability and stability.

### Ammunition for Use under Difficult Conditions

**NATO FMJ – Under extreme temperature fluctuations**
These army cartridges meet NATO requirements, and are guaranteed to work between -54°C to +52°C.

**Tracer – At night**
Tracer bullets enable precise tracing of the trajectory hits.

**AP – For hard targets**
Increased penetration for hard targets (penetrates at least 8 sheet steel registers).

**Subsonic – For silent missions**
Subsonic ammunition for silenced shooting.

**Blank – No risk at training**
Plastic blank cartridges enable realistic simulation with service weapons.
SINTOX® - No. 1 Choice for Reliable Low-Polluting Priming Technology

The most important point for choosing a primer is its reliability. RUAG has addressed this issue since 1928 with the invention of the most reliable, corrosion-free SINOXID-primer. However standard primers contain lead styphenate, which shooters can get exposed to during the firing process. This may lead to hazardous overexposure.

**SINTOX® is a further development of the SINOXID-technology, providing the same undisputed reliability, but heavy metal-free.**

- Free of toxic heavy metals like barium
- No exposure to pollutants to the shooter or shooting range personnel
- Absolute reliability and functional stability, in the most extreme of conditions
- Consistent ignition of the propellant over a wide temperature range, from -54°C to 52°C

- Optimum shelf life, even in critical storage conditions
- Extraordinary ignition sensitivity
- Will not corrode or erode the barrel
- Successfully used for over 20 years
- Used with several NATO-qualified cartridges

**SINTOX®-FORENSIS - All the Forensic Requirements are met**

The SINTOX® technology has been further developed in recent years to enable analysis of gunshot residue. Use of a marking agent can clearly explain:

- whether police ammunition has been used
- whether police ammunition has been used appropriately
- the distance from which the shot was fired.

Gunshot particles are searched for and analysed using an SEM (Scanning Electron Microscope) or an EDX (Energy Dispersive X-ray Analysis). The tracer element Gadolinium from the rare-earth group is used as a marking agent. At the customer’s request this can be refined to give them their own unique marker. The shooting distance is determined through a chemographic analysis (tinting method).
### Calibre 9x19

#### Deformation Ammunition

<table>
<thead>
<tr>
<th>Action</th>
<th>Weight (g / gr)</th>
<th>Description</th>
<th>Max. energy-transfer</th>
<th>Bullet-type</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACTION 1 SX</td>
<td>5.6 g / 86 gr</td>
<td>Deformation cartridge with high terminal performance on soft targets</td>
<td>●</td>
<td>SHP</td>
</tr>
<tr>
<td>ACTION 3 SX</td>
<td>6.0 g / 92 gr</td>
<td>ACTION-cartridge without deformation</td>
<td>○</td>
<td>SHP</td>
</tr>
<tr>
<td>ACTION 4 SXF</td>
<td>6.1 g / 94 gr</td>
<td>Deformation cartridge with good performance on soft and hard targets, as well as glass and tyres</td>
<td>○</td>
<td>SHP</td>
</tr>
<tr>
<td>ACTION 5 SXF</td>
<td>6.1 g / 94 gr</td>
<td>Deformation cartridge with high terminal performance on soft targets</td>
<td>●</td>
<td>SHP</td>
</tr>
<tr>
<td>ACTION Effect SXF</td>
<td>6.1 g / 94 gr</td>
<td>ACTION-cartridge with max. deformation to the calibre diameter. Good penetration on combined and hard targets</td>
<td>○</td>
<td>SHP</td>
</tr>
<tr>
<td>SECA SXF</td>
<td>6.4 g / 99 gr</td>
<td>Deformation cartridge with good performance on soft and hard targets, as well as glass and tyres</td>
<td>○</td>
<td>JDP</td>
</tr>
<tr>
<td>HP SXF</td>
<td>8.0 g / 124 gr</td>
<td>Deformation cartridge with good terminal performance on soft targets (on request)</td>
<td>●</td>
<td>JHP</td>
</tr>
</tbody>
</table>

#### Ball Ammunition (FMJ)

<table>
<thead>
<tr>
<th>Action</th>
<th>Weight (g / gr)</th>
<th>Description</th>
<th>Max. energy-transfer</th>
<th>Bullet-type</th>
</tr>
</thead>
<tbody>
<tr>
<td>FMJ</td>
<td>8.0 g / 124 gr</td>
<td>Training cartridge, specially suitable for outdoor shooting ranges</td>
<td>FMJ</td>
<td></td>
</tr>
<tr>
<td>FMJ SX</td>
<td>8.0 g / 124 gr</td>
<td>FMJ-cartridge for training and service, especially suitable for indoor shooting ranges</td>
<td>FMJ</td>
<td></td>
</tr>
<tr>
<td>FMJ SX</td>
<td>7.5 g / 115 gr</td>
<td>FMJ-cartridge with lighter bullet for training and service, especially suitable for indoor shooting ranges</td>
<td>FMJ</td>
<td></td>
</tr>
<tr>
<td>FMJ SXF (+P)</td>
<td>8.0 g / 124 gr</td>
<td>Service cartridge with enhanced power and SINTOX-FORENSIS primer</td>
<td>FMJ</td>
<td></td>
</tr>
<tr>
<td>LF FMJ SXF (+P)</td>
<td>6.5 g / 100 gr</td>
<td>Training and service cartridge, completely lead free</td>
<td>FMJ</td>
<td></td>
</tr>
<tr>
<td>NATO FMJ</td>
<td>8.0 g / 124 gr</td>
<td>FMJ-cartridge according to NATO requirements</td>
<td>FMJ</td>
<td></td>
</tr>
<tr>
<td>NATO FMJ SX</td>
<td>8.0 g / 124 gr</td>
<td>Pollutant-reduced FMJ-cartridge according to NATO requirements</td>
<td>FMJ</td>
<td></td>
</tr>
</tbody>
</table>

#### Ammunition for Special Purposes

<table>
<thead>
<tr>
<th>Action</th>
<th>Weight (g / gr)</th>
<th>Description</th>
<th>Bullet-type</th>
</tr>
</thead>
<tbody>
<tr>
<td>AP SX</td>
<td>7.0 g / 108 gr</td>
<td>Penetrator cartridge with solid bullet for enhanced penetration on light-armoured targets (penetrates 8 sheet steel registers at 15m)</td>
<td>solid</td>
</tr>
<tr>
<td>Subsonic FMJ</td>
<td>10.0 g / 154 gr</td>
<td>Silenced subsonic cartridge with FMJ-bullet</td>
<td>FMJ</td>
</tr>
<tr>
<td>Subsonic HP SX</td>
<td>9.5 g / 147 gr</td>
<td>Silenced subsonic cartridge with deformation-bullet</td>
<td>JHP</td>
</tr>
<tr>
<td>Tracer</td>
<td>7.6 g / 118 gr</td>
<td>Tracer cartridge (red)</td>
<td>tracer</td>
</tr>
</tbody>
</table>

#### Training Ammunition

<table>
<thead>
<tr>
<th>Action</th>
<th>Weight (g / gr)</th>
<th>Description</th>
<th>Bullet-type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frangible COPPER-MATRIX SX</td>
<td>5.5 g / 85 gr</td>
<td>Non-toxic cartridge for tactical training with reduced risk of ricochets (on request)</td>
<td>frangible</td>
</tr>
<tr>
<td>Plastic Blank</td>
<td></td>
<td>Blank cartridge with plastic tip for safe simulation</td>
<td></td>
</tr>
<tr>
<td>Drill</td>
<td></td>
<td>Inert drill cartridge in solid brass</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Muzzle velocity</th>
<th>Muzzle energy</th>
<th>Gas pressure</th>
<th>Temperature range</th>
<th>Term of reference</th>
<th>Primer</th>
<th>Lead-free</th>
<th>Maschine pistol</th>
<th>Art. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>450 m/s ***</td>
<td>565 J</td>
<td>2 600 bar</td>
<td>-20°C / +52°C</td>
<td>SINTOX</td>
<td></td>
<td></td>
<td></td>
<td>2554.4101</td>
</tr>
<tr>
<td>420 m/s ***</td>
<td>530 J</td>
<td>2 600 bar</td>
<td>-20°C / +52°C</td>
<td>SINTOX</td>
<td></td>
<td></td>
<td></td>
<td>2554.4102</td>
</tr>
<tr>
<td>420 m/s *</td>
<td>540 J</td>
<td>2 700 bar</td>
<td>-30°C / +52°C</td>
<td>SINTOX</td>
<td></td>
<td></td>
<td></td>
<td>2554.4103</td>
</tr>
<tr>
<td>425 m/s *</td>
<td>550 J</td>
<td>2 700 bar</td>
<td>-30°C / +52°C</td>
<td>SINTOX</td>
<td></td>
<td></td>
<td></td>
<td>2554.4104</td>
</tr>
<tr>
<td>420 m/s ***</td>
<td>540 J</td>
<td>2 600 bar</td>
<td>-20°C / +52°C</td>
<td>SINTOX</td>
<td></td>
<td></td>
<td></td>
<td>2554.4105</td>
</tr>
<tr>
<td>400 m/s *</td>
<td>510 J</td>
<td>2 700 bar</td>
<td>-30°C / +52°C</td>
<td>SINTOX</td>
<td></td>
<td></td>
<td></td>
<td>2554.4106</td>
</tr>
<tr>
<td>365 m/s **</td>
<td>530 J</td>
<td>2 350 bar</td>
<td>-30°C / +52°C</td>
<td>C.I.P.</td>
<td></td>
<td></td>
<td></td>
<td>2554.4107</td>
</tr>
<tr>
<td>380 m/s ***</td>
<td>575 J</td>
<td>2 350 bar</td>
<td>C.I.P.</td>
<td>SINTOX</td>
<td></td>
<td></td>
<td></td>
<td>2554.4110</td>
</tr>
<tr>
<td>370 m/s **</td>
<td>545 J</td>
<td>2 350 bar</td>
<td>-30°C / +52°C</td>
<td>SINTOX</td>
<td></td>
<td></td>
<td></td>
<td>2554.4111</td>
</tr>
<tr>
<td>370 m/s **</td>
<td>515 J</td>
<td>2 350 bar</td>
<td>-30°C / +52°C</td>
<td>SINTOX</td>
<td></td>
<td></td>
<td></td>
<td>2554.4114</td>
</tr>
<tr>
<td>350 m/s *</td>
<td>490 J</td>
<td>2 700 bar</td>
<td>-30°C / +52°C</td>
<td>SINTOX</td>
<td></td>
<td></td>
<td></td>
<td>2554.4113</td>
</tr>
<tr>
<td>400 m/s *</td>
<td>520 J</td>
<td>2 700 bar</td>
<td>-54°C / +52°C</td>
<td>SINTOX</td>
<td></td>
<td></td>
<td></td>
<td>2554.4133</td>
</tr>
<tr>
<td>395 m/s ***</td>
<td>620 J</td>
<td>2 850 bar</td>
<td>-54°C / +52°C</td>
<td>SINTOX</td>
<td></td>
<td></td>
<td></td>
<td>2554.4115</td>
</tr>
<tr>
<td>395 m/s ***</td>
<td>620 J</td>
<td>2 850 bar</td>
<td>-54°C / +52°C</td>
<td>SINTOX</td>
<td></td>
<td></td>
<td></td>
<td>2554.4116</td>
</tr>
<tr>
<td>420 m/s ***</td>
<td>615 J</td>
<td>2 600 bar</td>
<td>-20°C / +52°C</td>
<td>SINTOX</td>
<td></td>
<td></td>
<td></td>
<td>2554.4127</td>
</tr>
<tr>
<td>315 m/s ***</td>
<td>495 J</td>
<td>2 350 bar</td>
<td>-30°C / +52°C</td>
<td>SINTOX</td>
<td></td>
<td></td>
<td></td>
<td>2554.4128</td>
</tr>
<tr>
<td>325 m/s *</td>
<td>500 J</td>
<td>2 600 bar</td>
<td>-30°C / +52°C</td>
<td>SINTOX</td>
<td></td>
<td></td>
<td></td>
<td>2554.4129</td>
</tr>
<tr>
<td>420 m/s ***</td>
<td>670 J</td>
<td>2 600 bar</td>
<td>-20°C / +30°C</td>
<td>SINTOX</td>
<td></td>
<td></td>
<td></td>
<td>2554.4131</td>
</tr>
<tr>
<td>430 m/s ***</td>
<td>510 J</td>
<td>2 850 bar</td>
<td>-54°C / +52°C</td>
<td>SINTOX</td>
<td></td>
<td></td>
<td></td>
<td>2554.4134</td>
</tr>
</tbody>
</table>

* 100mm barrel
** 150mm barrel
*** 200mm barrel

Technical specification and numerical data are given as an indication only and are of no contractual nature. Ask for a product overview sheet for further information.
Production Sites

RUAG Ammotec AG
Uttigenstrasse 67
3602 Thun • Switzerland
Tel. +41 332 282 220
Fax +41 332 282 627

RUAG Ammotec GmbH
Kronacher Strasse 63
90765 Fürth • Germany
Tel. +49 911 97961-110
Fax +49 911 97961-151

Norma Precision AB
Järgatan
67040 Amotfors • Sweden
Tel. +46 571 315 00
Fax +46 571 315 40

RUAG Ammotec USA, Inc.
5402 E. Diana Street
Tampa, FL 33610 • USA
Tel. +1 813 626 0077
Fax +1 813 626 0078

RUAG Hungarian Ammotec Inc.
P.O. Box 9
3332 Sirok • Hungary
Tel. +36 36 561 303
Fax +36 36 561 027

Sales Subsidiaries

RUAG Ammotec Austria GmbH
IZ NO - Süd Strasse 7 • Objekt 58 D
2355 Wiener Neudorf • Österreich
Tel. + 43 2236 677 735 - 27
Fax + 43 2236 677 736

RUAG Ammotec France S.A.S.
47 Avenue des Genottes
BP 78307 Cergy
95803 Cergy Pontoise Cedex • France
Tel. +33 134 35 15 91
Fax +33 134 35 15 99

RUAG Ammotec Benelux B.V.B.A
Kapelleveledstraat 18
2530 Boechout • Belgium
Tel. +32 3 455 7508
Fax +32 3 454 0446

RUAG Ammotec UK Ltd.
Upton Cross, Liskeard
PL14 5BQ Cornwall • UK
Tel. +44 15 79 36 23 19
Fax +44 15 79 36 23 33

Distributors Worldwide

RUAG Ammotec AG
Uttigenstrasse 67
3602 Thun Switzerland
www.ruag.com
Tel. +41 332 282 879
Fax +41 332 282 644
sales.ammotec@ruag.com

RUAG Ammotec
USA, Inc.
5402 E. Diana Street
Tampa, FL 33610 • USA
Tel. +1 813 626 0077
Fax +1 813 626 0078

RUAG Hungarian Ammotec Inc.
P.O. Box 9
3332 Sirok • Hungary
Tel. +36 36 561 303
Fax +36 36 561 027

RUAG Ammotec Austria GmbH
IZ NO - Süd Strasse 7 • Objekt 58 D
2355 Wiener Neudorf • Österreich
Tel. + 43 2236 677 735 - 27
Fax + 43 2236 677 736

RUAG Ammotec France S.A.S.
47 Avenue des Genottes
BP 78307 Cergy
95803 Cergy Pontoise Cedex • France
Tel. +33 134 35 15 91
Fax +33 134 35 15 99

RUAG Ammotec Benelux B.V.B.A
Kapelleveledstraat 18
2530 Boechout • Belgium
Tel. +32 3 455 7508
Fax +32 3 454 0446

RUAG Ammotec UK Ltd.
Upton Cross, Liskeard
PL14 5BQ Cornwall • UK
Tel. +44 15 79 36 23 19
Fax +44 15 79 36 23 33

Sales Defence & Law Enforcement