

Directive 2009/43/EC of the European Parliament and of the Council of
6 May 2009 simplifying terms and conditions of transfers of defence-
related products within the Community (Text with EEA relevance)

DIRECTIVE 2009/43/EC OF THE EUROPEAN
PARLIAMENT AND OF THE COUNCIL

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defence-related products within the Community

(Text with EEA relevance)

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 95
thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Economic and Social Committee⁽¹⁾,

Acting in accordance with the procedure laid down in Article 251 of the Treaty⁽²⁾,

Whereas:

- (1) The Treaty provides for the establishment of an internal market, including the abolition between Member States of obstacles to the free movement of goods and services, and for the institution of a system ensuring that competition in the internal market is not distorted.
- (2) The Treaty provisions establishing the internal market apply to all goods and services provided in return for remuneration, including defence-related products, but do not preclude Member States under certain conditions from taking other measures in individual cases where they consider it necessary for the protection of their essential security interests.
- (3) The laws, regulations and administrative provisions in Member States concerning the transfer of defence-related products within the Community contain disparities which may impede the movement of such products and which may distort competition within the internal market, thereby hampering innovation, industrial cooperation and the competitiveness of the defence industry in the European Union.
- (4) The objectives pursued generally by the laws and regulations of Member States include the preservation of human rights, peace, security and stability through systems of strict control and restriction of the exportation and proliferation of defence-related products to third countries as well as to other Member States.
- (5) Such restrictions on the movement of defence-related products within the Community cannot be abolished generally through direct application of the principles of the free

movement of goods and services provided for by the Treaty, as those restrictions may be justified on a case-by-case basis in accordance with Articles 30 or 296 of the Treaty, which continue to be applicable by Member States, provided that their conditions are met.

- (6) The relevant laws and regulations of Member States therefore need to be harmonised in such a way as to simplify the intra-Community transfer of defence-related products in order to ensure the proper functioning of the internal market. This Directive only deals with rules and procedures as far as defence-related products are concerned, and, consequently, does not affect the policies of the Member States regarding the transfer of defence-related products.
- (7) Harmonisation of the relevant laws and regulations of Member States should not prejudice the international obligations and commitments of the Member States nor their discretion as regards their policy on the export of defence-related products.
- (8) Member States should remain entitled to pursue and further develop intergovernmental cooperation, whilst complying with the provisions of this Directive.
- (9) This Directive should not apply to defence-related products which only pass through the territory of the Community, namely to those products which are not assigned a customs-approved treatment or use other than the external transit procedure or which are merely placed in a free zone or free warehouse and where no record of them has to be kept in an approved stock record.
- (10) This Directive should cover all the defence-related products which correspond to those listed in the Common Military List of the European Union⁽³⁾, including their components and technologies.
- (11) This Directive should not prejudice the implementation of Joint Action 97/817/CFSP of 28 November 1997 adopted by the Council on the basis of Article J.3 of the Treaty of the European Union on anti-personnel landmines⁽⁴⁾, nor should it prejudice the ratification and implementation by the Member States of the Convention on Cluster Munitions, signed in Oslo on 3 December 2008.
- (12) The objectives of the preservation of human rights, peace, security and stability pursued generally by laws and regulations of Member States restricting the transfer of defence-related products require that the transfer of those products within the Community remain subject to authorisation by originating Member States and guarantees in the receiving Member States.
- (13) In view of the safeguards provided by this Directive for the protection of those objectives, Member States would no longer need to introduce or maintain other restrictions for their achievement, subject to Articles 30 and 296 of the Treaty.
- (14) This Directive should not prejudice the application of provisions necessary on grounds of public policy or public security. In the light of the nature and features of defence-related products, grounds of public policy, such as the safety of transport, the safety of storage, the risk of diversion and the prevention of crime, are of particular relevance for the purposes of this Directive.

- (15) This Directive is without prejudice to the application of Council Directive 91/477/EEC of 18 June 1991 on control of the acquisition and possession of weapons⁽⁵⁾, and in particular the formalities for the movement of weapons within the Community. This Directive is also without prejudice to the application of Council Directive 93/15/EEC of 5 April 1993 on the harmonization of the provisions relating to the placing on the market and supervision of explosives for civil uses⁽⁶⁾, and in particular the provisions regarding the transfer of ammunitions.
- (16) Any transfer of defence-related products within the Community should be subject to prior authorisation through general, global or individual transfer licences granted or published by the Member State from whose territory the supplier wishes to transfer defence-related products. Member States should be able to exempt transfers of defence-related products from the obligation of prior authorisation in specific cases listed in this Directive.
- (17) Member States should be free to deny or grant prior authorisation. In line with the principles establishing the internal market, such authorisation should be valid throughout the Community and no further authorisation for passage through other Member States or entrance onto the territory of other Member States should be required.
- (18) Member States should determine the suitable type of transfer licence for defence-related products or categories of defence-related products for each type of transfer, and which terms and conditions should be attached to each transfer licence, taking into account the sensitivity of the transfer.
- (19) As regards components, Member States should refrain from imposing export limitations as far as possible by accepting the recipient's declaration of use, taking into account the degree of integration of such components into the recipient's own products.
- (20) Member States should determine the recipients of transfer licences in a non-discriminatory way, unless necessary for the protection of their essential security interests.
- (21) In order to facilitate transfers of defence-related products, general transfer licences should be published by Member States granting authorisation to transfer defence-related products to any undertaking fulfilling the terms and conditions defined in each general transfer licence.
- (22) A general transfer licence should be published for transfers of defence-related products to armed forces in order to greatly increase security of supply for all Member States which choose to procure such products within the Community.
- (23) A general transfer licence should be published for transfers of components to certified European defence undertakings in order to foster cooperation between, and the integration of, those undertakings, in particular by facilitating optimisation of supply chains and economies of scale.
- (24) Member States participating in an intergovernmental cooperation programme should be able to publish a general transfer licence for such transfers of defence-related products to recipients in other participating Member States as are necessary for the execution of that

- programme. This would improve conditions for the participation in intergovernmental cooperation programmes by undertakings established in participating Member States.
- (25) Member States should be able to publish further general transfer licences to cover cases where the risk for the preservation of human rights, peace, security and stability is very low in view of the nature of the products and the recipients.
- (26) Where a general transfer licence cannot be published, Member States should, upon request, grant a global transfer licence to individual undertakings, except in the cases set out in this Directive. Member States should be able to grant renewable global transfer licences.
- (27) Undertakings should inform the competent authorities of the use of general transfer licences with a view to the preservation of human rights, peace, security and stability and in order to allow transparent reporting of transfers of defence-related products with a view to democratic control.
- (28) The degree of latitude of Member States in determining the terms and conditions of general, global and individual transfer licences should be flexible enough to allow ongoing cooperation under the existing international framework on export control. As the decision to authorise or deny an export is, and should remain, at the discretion of each Member State, such cooperation should only stem from the voluntary coordination of export policies.
- (29) In order to compensate for the progressive replacement of individual ex-ante control by general ex-post control in the Member State of origin of the defence-related products, conditions for mutual confidence and trust should be created by including guarantees which ensure that defence-related products are not exported in violation of export limitations to third countries. This principle should also be observed in instances where defence-related products are transferred several times between Member States before being exported to a third country.
- (30) Member States cooperate in the framework of Council Common Position 2008/944/CFSP of 8 December 2008 defining common rules governing control of exports of military technology and equipment⁽⁷⁾ through application of common criteria as well as denial notification and consultation mechanisms with a view to increasing convergence in the application of their export policies of defence-related products to third countries. This Directive should not prevent Member States from determining the terms and conditions of transfer licences of defence-related products, including possible export limitations, in particular where this is necessary for the purposes of cooperation in the framework of that Common Position.
- (31) Suppliers should inform recipients of any limitations attached to transfer licences in order to allow the building of mutual trust in the ability of recipients to comply with such limitations after the transfer, in particular in the case of a request for export to third countries.
- (32) It should be for undertakings to decide whether the benefits flowing from the possibility of receiving defence-related products under a general transfer licence justify the request for certification. Transfers within a group of undertakings should benefit from a general

transfer licence in cases where the members of the group are certified in their respective Member States of establishment.

- (33) Common criteria for certification are necessary in order to allow the building of mutual trust, in particular in the ability of recipients to comply with export limitations of defence-related products received under a transfer licence from another Member State.
- (34) In order to facilitate mutual confidence, recipients of transferred defence-related products should refrain from exporting those products where the transfer licence contains export limitations.
- (35) Undertakings should declare to their competent authorities, at the time of requesting an export licence to third countries, whether they have abided by any export limitations attached to the transfer of the defence-related product by the Member State which issued the transfer licence. In this context, it is recalled that the consultation mechanism between Member States, as provided for in Common Position 2008/944/CFSP, is of particular relevance.
- (36) Undertakings should furnish proof of the export licence at the common external frontier of the Community to the competent customs authority at the moment of the export to a third country of a defence-related product received under a transfer licence.
- (37) The list of defence-related products set out in the Annex should be updated in strict conformity with the Common Military List of the European Union.
- (38) It is necessary for the progressive building of mutual trust and confidence that Member States determine effective measures, including penalties, sufficient to ensure enforcement of the provisions of this Directive, and in particular those providing that undertakings comply with the common criteria for certification and with limitations of further use of defence-related products following a transfer.
- (39) Where a Member State of origin has a reasonable doubt as to whether a certified recipient will comply with a condition attached to its general transfer licence, or where a licensing Member State considers that public policy, public security or its essential security interests could be affected, it should not only inform the other Member States and the Commission, but should also be able to provisionally suspend the effect of any transfer licence with regard to that recipient, having regard to its responsibility for the preservation of human rights, peace, security and stability.
- (40) To foster mutual trust, the application of the laws, regulations and administrative provisions adopted to ensure compliance with this Directive should be deferred. That would allow, before application of those provisions, an evaluation of progress made on the basis of a report prepared by the Commission based on the information submitted by the Member States on the measures taken.
- (41) The Commission should regularly publish a report on the implementation of this Directive, which may be accompanied by legislative proposals where appropriate.
- (42) This Directive does not affect the existence or completion of regional unions between Belgium and Luxembourg, or between Belgium, Luxembourg and the Netherlands, as provided for in Article 306 of the Treaty.

- (43) Since the objective of this Directive, namely the simplification of the rules and procedures applicable to the intra-Community transfer of defence-related products in order to ensure the proper functioning of the internal market, cannot be sufficiently achieved by the Member States in view of the divergence of present licensing procedures and the cross-border nature of transfers, and can therefore be better achieved at Community level, the Community may adopt measures, in accordance with the principle of subsidiarity as set out in Article 5 of the Treaty. In accordance with the principle of proportionality, as set out in that Article, this Directive does not go beyond what is necessary in order to achieve that objective.
- (44) The measures necessary for the implementation of this Directive should be adopted in accordance with Council Decision 1999/468/EC of 28 June 1999 laying down the procedures for the exercise of implementing powers of the Commission⁽⁸⁾.
- (45) In particular, the Commission should be empowered to amend the Annex. Since those measures are of general scope and are designed to amend non-essential elements of this Directive, they must be adopted in accordance with the regulatory procedure with scrutiny provided for in Article 5a of Decision 1999/468/EC.
- (46) In accordance with point 34 of the Interinstitutional Agreement on better law-making⁽⁹⁾, Member States are encouraged to draw up, for themselves and in the interests of the Community, their own tables illustrating, as far as possible, the correlation between this Directive and the transposition measures, and to make them public,

HAVE ADOPTED THIS DIRECTIVE:

CHAPTER I

SUBJECT MATTER, SCOPE AND DEFINITIONS

Article 1

Subject matter

- 1 The aim of this Directive is to simplify the rules and procedures applicable to the intra-Community transfer of defence-related products in order to ensure the proper functioning of the internal market.
- 2 This Directive does not affect the discretion of Member States as regards policy on the export of defence-related products.
- 3 The application of this Directive is subject to Articles 30 and 296 of the Treaty.
- 4 This Directive does not affect the possibility for Member States to pursue and further develop intergovernmental cooperation, whilst complying with the provisions of this Directive.

Article 2

Scope

This Directive applies to defence-related products as set out in the Annex.

Article 3

Definitions

For the purposes of this Directive, the following definitions shall apply:

1. 'defence-related product' means any product listed in the Annex;
2. 'transfer' means any transmission or movement of a defence-related product from a supplier to a recipient in another Member State;
3. 'supplier' means the legal or natural person established within the Community who is legally responsible for a transfer;
4. 'recipient' means the legal or natural person established within the Community who is legally responsible for the receipt of a transfer;
5. 'transfer licence' means an authorisation by a national authority of a Member State for suppliers to transfer defence-related products to a recipient in another Member State;
6. 'export licence' means an authorisation to supply defence-related products to a legal or natural person in any third country;
7. 'passage through' means the transport of defence-related products through one or more Member States other than the originating and receiving Member States.

CHAPTER II

TRANSFER LICENCES

Article 4

General provisions

1 The transfer of defence-related products between Member States shall be subject to prior authorisation. No further authorisation by other Member States shall be required for passage through Member States or for entrance onto the territory of the Member State where the recipient of defence-related products is located, without prejudice to the application of provisions necessary on grounds of public security or public policy such as, *inter alia*, the safety of transport.

2 Notwithstanding paragraph 1, Member States may exempt transfers of defence-related products from the obligation of prior authorisation set out in that paragraph where:

- a the supplier or the recipient is a governmental body or part of the armed forces;
- b supplies are made by the European Union, NATO, IAEA or other intergovernmental organisations for the performance of their tasks;

- c the transfer is necessary for the implementation of a cooperative armament programme between Member States;
- d the transfer is linked to humanitarian aid in the case of disaster or as a donation in an emergency; or
- e the transfer is necessary for or after repair, maintenance, exhibition or demonstration.

3 At the request of a Member State or on its own initiative, the Commission may amend paragraph 2 in order to include cases where:

- a the transfer takes place under conditions which do not affect public policy or public security;
- b the obligation of prior authorisation has become incompatible with international commitments of the Member States subsequent to the adoption of this Directive; or
- c it is necessary for intergovernmental cooperation, as referred to in Article 1(4).

Those measures, designed to amend non-essential elements of this Directive by supplementing it, shall be adopted in accordance with the regulatory procedure with scrutiny referred to in Article 14(2).

4 Member States shall ensure that suppliers wishing to transfer defence-related products from their territory may use general transfer licences or apply for global or individual transfer licences in accordance with Articles 5, 6 and 7.

5 Member States shall determine the type of transfer licence for defence-related products or categories of defence-related products concerned in accordance with the provisions of this Article and Articles 5, 6 and 7.

6 Member States shall determine all the terms and conditions of transfer licences, including any limitations on the export of defence-related products to legal or natural persons in third countries, having regard, *inter alia*, to the risk for the preservation of human rights, peace, security and stability created by the transfer. Member States may, whilst complying with Community law, avail themselves of the possibility to request end-use assurances, including end-user certificates.

7 Member States shall determine the terms and conditions of transfer licences for components on the basis of an assessment of the sensitivity of the transfer according, *inter alia*, to the following criteria:

- a the nature of the components in relation to the products in which they are to be incorporated and any end-use of the finished products which might give rise to concern;
- b the significance of the components in relation to the products in which they are to be incorporated.

8 Except where they consider that the transfer of components is sensitive, Member States shall refrain from imposing any export limitations for components where the recipient provides a declaration of use in which it declares that the components subject to that transfer licence are integrated or are to be integrated into its own products and cannot at a later stage be transferred or exported as such, unless for the purposes of maintenance or repair.

9 Member States may withdraw, suspend or limit the use of transfer licences they have issued at any time for reasons of protection of their essential security interests, on grounds of public policy or public security, or as a result of non-compliance with the terms and conditions attached to the transfer licence.

Article 5

General transfer licences

1 Member States shall publish general transfer licences directly granting authorisation to suppliers established on their territory, which fulfil the terms and conditions attached to the general transfer licence, to perform transfers of defence-related products, to be specified in the general transfer licence, to a category or categories of recipients located in another Member State.

2 Without prejudice to Article 4(2), general transfer licences shall be published at least where:

- a the recipient is part of the armed forces of a Member State or a contracting authority in the field of defence, purchasing for the exclusive use by the armed forces of a Member State;
- b the recipient is an undertaking certified in accordance with Article 9;
- c the transfer is made for the purposes of demonstration, evaluation or exhibition;
- d the transfer is made for the purposes of maintenance and repair, if the recipient is the originating supplier of the defence-related products.

3 Member States participating in an intergovernmental cooperation programme concerning the development, production and use of one or more defence-related products may publish a general transfer licence for such transfers to other Member States which participate in that programme as are necessary for the execution of that programme.

4 Without prejudice to the other provisions of this Directive, Member States may lay down the conditions for registration prior to first use of a general transfer licence.

Article 6

Global transfer licences

1 Member States shall decide to grant global transfer licences to an individual supplier, at its request, authorising transfers of defence-related products to recipients in one or more other Member States.

2 Member States shall determine in each global transfer licence the defence-related products or categories of products covered by the global transfer licence and the authorised recipients or category of recipients.

A global transfer licence shall be granted for a period of three years, which may be renewed by the Member State.

Article 7

Individual transfer licences

Member States shall decide to grant individual transfer licences to an individual supplier at its request authorising one transfer of a specified quantity of specified defence-related products to be transmitted in one or several shipments to one recipient where:

- (a) the request for a transfer licence is limited to one transfer;

- (b) it is necessary for the protection of the essential security interests of the Member State or on grounds of public policy;
- (c) it is necessary for compliance with international obligations and commitments of Member States; or
- (d) a Member State has serious reason to believe that the supplier will not be able to comply with all the terms and conditions necessary to grant it a global transfer licence.

CHAPTER III

INFORMATION, CERTIFICATION AND EXPORT AFTER TRANSFER

Article 8

Information to be provided by suppliers

1 Member States shall ensure that suppliers of defence-related products inform recipients of the terms and conditions of the transfer licence, including limitations, relating to the end-use or export of the defence-related products.

2 Member States shall ensure that suppliers inform, within a reasonable time, the competent authorities of the Member State from whose territory they wish to transfer defence-related products of their intention to use a general transfer licence for the first time. Member States may determine the additional information that may be required regarding defence-related products transferred under a general transfer licence.

3 Member States shall ensure and regularly check that suppliers keep detailed and complete records of their transfers, in accordance with the legislation in force in that Member State, and shall determine the reporting requirements attached to the use of a general, global or individual transfer licence. Such records shall include commercial documents containing the following information:

- a a description of the defence-related product and its reference under the Annex;
- b the quantity and value of the defence-related product;
- c the dates of transfer;
- d the name and address of the supplier and of the recipient;
- e where known, the end-use and end-user of the defence-related product; and
- f proof that the information on an export limitation attached to a transfer licence has been transmitted to the recipient of the defence-related products.

4 Member States shall ensure that suppliers keep the records referred to in paragraph 3 for a period at least equal to that provided for in relevant national legislation relating to record-keeping requirements for economic operators in force in that Member State, and in any event for not less than three years from the end of the calendar year in which the transfer took place. They shall be provided at the request of the competent authorities of the Member State from whose territory the supplier transferred the defence-related products.

Article 9

Certification

1 Member States shall designate competent authorities to carry out the certification of recipients established on their territory of defence-related products under transfer licences published by other Member States in accordance with Article 5(2)(b).

2 The certification shall establish the reliability of the recipient undertaking, in particular as regards its capacity to observe export limitations of defence-related products received under a transfer licence from another Member State. Reliability shall be assessed according to the following criteria:

- a proven experience in defence activities, taking into account in particular the undertaking's record of compliance with export restrictions, any court decisions on this matter, any authorisation to produce or commercialise defence-related products and the employment of experienced management staff;
- b relevant industrial activity in defence-related products within the Community, in particular capacity for system/sub-system integration;
- c the appointment of a senior executive as the dedicated officer personally responsible for transfers and exports;
- d a written commitment of the undertaking, signed by the senior executive referred to in point (c), that the undertaking will take all necessary steps to observe and enforce all specific conditions related to the end-use and export of any specific component or product received;
- e a written commitment of the undertaking, signed by the senior executive referred to in point (c), to provide to the competent authorities, with due diligence, detailed information in response to requests and inquiries concerning the end-users or end-use of all products exported, transferred or received under a transfer licence from another Member State; and
- f a description, countersigned by the senior executive referred to in point (c), of the internal compliance programme or transfer and export management system implemented in the undertaking. This description shall provide details of the organisational, human and technical resources allocated to the management of transfers and exports, the chain of responsibility within the undertaking, internal audit procedures, awareness-raising and staff training, physical and technical security arrangements, record-keeping and traceability of transfers and exports.

3 Certificates shall contain the following information:

- a the competent authority issuing the certificate;
- b the name and address of the recipient;
- c a statement of the conformity of the recipient with the criteria referred to in paragraph 2; and
- d the date of issue and period of validity of the certificate.

The period of validity of the certificate referred to in point (d) shall in any case not exceed five years.

4 Certificates may contain further conditions relating to the following:

- a the provision of information required for the verification of compliance with the criteria referred to in paragraph 2;
- b the suspension or revocation of the certificate.

5 Competent authorities shall monitor the compliance of the recipient with the criteria referred to in paragraph 2 at least every three years, and with any condition attached to the certificates referred to in paragraph 4.

6 Member States shall recognise any certificates issued in accordance with this Directive in another Member State.

7 If a competent authority finds that the holder of a certificate established on the territory of its Member State no longer satisfies the criteria referred to in paragraph 2 or any of the conditions referred to in paragraph 4, it shall take appropriate measures. Such measures may include revoking the certificate. The competent authority shall inform the Commission and the other Member States of its decision.

8 Member States shall publish and regularly update a list of certified recipients and inform the Commission, the European Parliament and the other Member States thereof.

The Commission shall make publicly available on its website a central register of recipients certified by Member States.

Article 10

Export limitations

Member States shall ensure that recipients of defence-related products, when applying for an export licence, declare to their competent authorities, in cases where such products received under a transfer licence from another Member State have export limitations attached to them, that they have complied with the terms of those limitations, including, as the case may be, by having obtained the required consent from the originating Member State.

CHAPTER IV

CUSTOMS PROCEDURES AND ADMINISTRATIVE COOPERATION

Article 11

Customs procedures

1 Member States shall ensure that, when completing the formalities for the export of defence-related products at the customs office responsible for handling the export declaration, the exporter furnishes proof that any necessary export licence has been obtained.

2 Without prejudice to Council Regulation (EEC) No 2913/92 of 12 October 1992 establishing the Community Customs Code⁽¹⁰⁾, a Member State may also, for a period not exceeding 30 working days, suspend the process of export from its territory of defence-related products received from another Member State under a transfer licence and incorporated in another defence-related product or, if necessary, prevent by other means such products from leaving the Community from its territory, where it considers that:

- a relevant information was not taken into account when the export licence was granted; or
- b circumstances have materially changed since the grant of the export licence.

3 Member States may provide that customs formalities for the export of defence-related products can be completed only at certain customs offices.

4 Member States availing themselves of the option set out in paragraph 3 shall inform the Commission of the relevant customs offices. The Commission shall publish that information in the C series of the *Official Journal of the European Union*.

Article 12

Exchange of information

Acting in liaison with the Commission, Member States shall take all appropriate measures to establish direct cooperation and exchange of information between their national competent authorities.

CHAPTER V

UPDATING OF THE LIST OF DEFENCE-RELATED PRODUCTS

Article 13

Adaptation of the Annex

1 The Commission shall update the list of defence-related products set out in the Annex, so that it strictly corresponds to the Common Military List of the European Union.

2 Those measures, designed to amend non-essential elements of this Directive, shall be adopted in accordance with the regulatory procedure with scrutiny referred to in Article 14(2).

Article 14

Committee procedure

1 The Commission shall be assisted by a committee.

2 Where reference is made to this paragraph, Article 5a(1) to (4) and Article 7 of Decision 1999/468/EC shall apply, having regard to the provisions of Article 8 thereof.

CHAPTER VI

FINAL PROVISIONS

Article 15

Safeguard measures

1 Where a licensing Member State considers that there is a serious risk that a recipient certified in accordance with Article 9 in another Member State will not comply with a condition attached to a general transfer licence, or where a licensing Member State considers that public

policy, public security or its essential security interests could be affected, it shall inform that other Member State and request verification of the situation.

2 Where the doubts referred to in paragraph 1 persist, the licensing Member State may provisionally suspend the effect of its general transfer licence with regard to such recipients. It shall inform the other Member States and the Commission of the reasons for that safeguard measure. The Member State which adopted that measure may decide to lift it where it considers that it is no longer justified.

Article 16

Penalties

Member States shall lay down rules on penalties applicable to infringements of the provisions adopted in implementation of this Directive, in particular in the event of false or incomplete information required under Article 8(1) or Article 10 being provided as regards compliance with export limitations attached to a transfer licence. The Member States shall take all measures necessary to ensure that those rules are implemented. The penalties provided for shall be effective, proportionate and dissuasive.

Article 17

Review and reporting

1 By 30 June 2012, the Commission shall report on the measures taken by the Member States with a view to the transposition of this Directive, and in particular Articles 9 to 12 and Article 15 thereof.

2 By 30 June 2016, the Commission shall review the implementation of this Directive and report thereon to the European Parliament and the Council. It shall evaluate in particular whether, and to what extent, the objectives of this Directive have been achieved, with regard, *inter alia*, to the functioning of the internal market. In its report, the Commission shall review the application of Articles 9 to 12 and Article 15 of this Directive, and shall evaluate the impact of this Directive on the development of a European defence equipment market and a European defence technological and industrial base, having regard, *inter alia*, to the situation of small and medium-sized enterprises. If necessary, the report shall be accompanied by a legislative proposal.

Article 18

Transposition

1 Member States shall adopt and publish, no later than 30 June 2011, the laws, regulations and administrative provisions necessary to comply with this Directive. They shall forthwith communicate to the Commission the text of those measures.

They shall apply those measures from 30 June 2012.

When Member States adopt those measures, they shall contain a reference to this Directive or be accompanied by such reference on the occasion of their official publication. The methods of making such reference shall be laid down by Member States.

2 Member States shall communicate to the Commission the text of the main provisions of national law which they adopt in the field covered by this Directive.

Article 19

Entry into force

This Directive shall enter into force on the 20th day following its publication in the *Official Journal of the European Union*.

Article 20

Addressees

This Directive is addressed to the Member States.

Done at Strasbourg, 6 May 2009.

For the European Parliament

The President

H.-G. PÖTTERING

For the Council

The President

J. KOHOUT

ANNEX

LIST OF DEFENCE-RELATED PRODUCTS

Smooth-bore weapons with a calibre of less than 20 mm, other arms and automatic weapons with a calibre of 12,7 mm (calibre 0,50 inches) or less and accessories, as follows, and specially designed components therefor:

- a. Rifles, carbines, revolvers, pistols, machine pistols and machine guns:

Note ML1.a. does not control the following:

1. *Muskets, rifles and carbines manufactured earlier than 1938;*
2. *Reproductions of muskets, rifles and carbines the originals of which were manufactured earlier than 1890;*
3. *Revolvers, pistols and machine guns manufactured earlier than 1890, and their reproductions;*

- b. Smooth-bore weapons, as follows:

1. Smooth-bore weapons specially designed for military use;
2. Other smooth-bore weapons, as follows:
 - a. Of the fully automatic type;
 - b. Of the semi-automatic or pump-action type;

- c. Weapons using caseless ammunition;

- d. Silencers, special gun-mountings, clips, weapons sights and flash suppressers for arms controlled by sub-items ML1.a., ML1.b. or ML1.c.

Note 1 ML1 does not control smooth-bore weapons used for hunting or sporting purposes. These weapons must not be specially designed for military use or of the fully automatic firing type.

Note 2 ML1 does not control firearms specially designed for dummy ammunition and which are incapable of firing any controlled ammunition.

Note 3 ML1 does not control weapons using non-centre fire cased ammunition and which are not of the fully automatic firing type.

Note 4 ML1.d. does not control optical weapon sights without electronic image processing, with a magnification of 4 times or less, provided they are not specially designed or modified for military use.

Smooth-bore weapons with a calibre of 20 mm or more, other weapons or armament with a calibre greater than 12,7 mm (calibre 0,50 inches), projectors and accessories, as follows, specially designed components therefor:

- a. Guns, howitzers, cannon, mortars, anti-tank weapons, projectile launchers, military flame throwers, rifles, recoilless rifles, smooth-bore weapons and signature reduction devices therefor;

Note 1 ML2.a. includes injectors, metering devices, storage tanks and other specially designed components for use with liquid propelling charges for any of the equipment controlled by ML2.a.

Note 2 ML2.a. does not control the following:

1. *Muskets, rifles and carbines manufactured earlier than 1938;*
2. *Reproductions of muskets, rifles and carbines the originals of which were manufactured earlier than 1890.*

b. Military smoke, gas and pyrotechnic projectors or generators;

Note ML2.b. does not control signal pistols.

c. Weapons sights.

Ammunition and fuse setting devices, as follows, and specially designed therefor:

- a. Ammunition for the weapons controlled by ML1, ML2 or ML12;
- b. Fuse setting devices specially designed for ammunition controlled by ML3.a.

Note 1 Specially designed components include:

- a. *Metal or plastic fabrications such as primer anvils, bullet cups, cartridge links, rotating bands and munitions metal parts;*
- b. *Safing and arming devices, fuses, sensors and initiation devices;*
- c. *Power supplies with high one-time operational output;*
- d. *Combustible cases for charges;*
- e. *Submunitions including bomblets, minelets and terminally guided projectiles.*

Note 2 ML3.a. does not control ammunition crimped without a projectile (blankstar) and dummy ammunition with a pierced powder chamber.

Note 3 ML3.a. does not control cartridges specially designed for any of the following purposes:

- a. *Signalling;*
- b. *Bird scaring; or*
- c. *Lighting of gas flares at oil wells.*

Bombs, torpedoes, rockets, missiles, other explosive devices and charges and related equipment and accessories, as follows, specially designed for military use, and specially designed components therefor:

NB: For guidance and navigation equipment, see ML11, Note 7.

- a. Bombs, torpedoes, grenades, smoke canisters, rockets, mines, missiles, depth charges, demolition-charges, demolition-devices and demolition-kits, 'pyrotechnic' devices, cartridges and simulators (i.e. equipment simulating the characteristics of any of these items);

Note ML4.a. includes:

1. *Smoke grenades, fire bombs, incendiary bombs and explosive devices;*
2. *Missile rocket nozzles and re-entry vehicle nosetips.*

- b. Equipment specially designed for the handling, control, activation, powering with one-time operational output, launching, laying, sweeping, discharging, decoying, jamming, detonation or detection of items controlled by ML4.a.

Note ML4.b. includes:

1. *Mobile gas liquefying equipment capable of producing 1 000 kg or more per day of gas in liquid form;*
2. *Buoyant electric conducting cable suitable for sweeping magnetic mines.*

Technical Note

Hand-held devices, limited by design solely to the detection of metal objects and incapable of distinguishing between mines and other metal objects, are not considered to be specially designed for the detection of items controlled by ML4.a.

Fire control, and related alerting and warning equipment, and related systems, test and alignment and countermeasure equipment, as follows, specially designed for military use, and specially designed components and accessories therefor:

- a. Weapon sights, bombing computers, gun laying equipment and weapon control systems;
- b. Target acquisition, designation, range-finding, surveillance or tracking systems; detection, data fusion, recognition or identification equipment; and sensor integration equipment;
- c. Countermeasure equipment for items controlled by ML5.a. or ML5.b.;
- d. Field test or alignment equipment, specially designed for items controlled by ML5.a. or ML5.b.

Ground vehicles and components, as follows:

NB: For guidance and navigation equipment, see ML11, Note 7.

- a. Ground vehicles and components therefor, specially designed or modified for military use;
- Technical Note

For the purposes of ML6.a. the term ground vehicles includes trailers.

- b. All-wheel drive vehicles capable of off-road use which have been manufactured or fitted with materials to provide ballistic protection to level III (NIJ 0108.01, September 1985, or comparable national standard) or better.

NB: See also ML13.a.

Note 1 ML6.a. includes:

- a. *Tanks and other military armed vehicles and military vehicles fitted with mountings for arms or equipment for mine laying or the launching of munitions controlled under ML4;*
- b. *Armoured vehicles;*
- c. *Amphibious and deep water fording vehicles;*
- d. *Recovery vehicles and vehicles for towing or transporting ammunition or weapon systems and associated load handling equipment.*

Note 2 Modification of a ground vehicle for military use controlled by ML6.a. entails a structural, electrical or mechanical change involving one or more specially designed military components. Such components include:

- a. *Pneumatic tyre casings of a kind specially designed to be bulletproof or to run when deflated;*
- b. *Tyre inflation pressure control systems, operated from inside a moving vehicle;*
- c. *Armoured protection of vital parts, (e.g. fuel tanks or vehicle cabs);*
- d. *Special reinforcements or mountings for weapons;*
- e. *Blackout lighting.*

Note 3 ML6 does not control civil automobiles, or trucks designed or modified for transporting money or valuables, having armoured or ballistic protection.

Chemical or biological toxic agents, 'riot control agents', radioactive materials, related equipment, components and materials as follows:

- a. Biological agents and radioactive materials 'adapted for use in war' to produce casualties in humans or animals, degrade equipment or damage crops or the environment;
- b. Chemical warfare (CW) agents including:
 1. CW nerve agents:
 - a. O-Alkyl (equal to or less than C10, including cycloalkyl) alkyl (Methyl, Ethyl, n-Propyl or Isopropyl) — phosphonofluoridates, such as:
 - Sarin (GB):O-Isopropyl methylphosphonofluoridate (CAS 107-44-8); and
 - Soman (GD):O-Pinacolyl methylphosphonofluoridate (CAS 96-64-0);
 - b. O-Alkyl (equal to or less than C10, including cycloalkyl) N,N-dialkyl (Methyl, Ethyl, n-Propyl or Isopropyl) phosphoramidocyanidates, such as:
 - Tabun (GA):O-Ethyl N,N-dimethylphosphoramidocyanidate (CAS 77-81-6);
 - c. O-Alkyl (H or equal to or less than C10, including cycloalkyl) S-2-dialkyl (Methyl, Ethyl, n-Propyl or Isopropyl)-aminoethyl alkyl (Methyl, Ethyl, n-Propyl or Isopropyl) phospho-nothiolates and corresponding alkylated and protonated salts, such as:
 - VX: O-Ethyl S-2-diisopropylaminoethyl methyl phosphonothiolate (CAS 50782-69-9);
 2. CW vesicant agents:
 - a. Sulphur mustards, such as:
 1. 2-Chloroethylchloromethylsulphide (CAS 2625-76-5);
 2. Bis(2-chloroethyl) sulphide (CAS 505-60-2);

3. Bis(2-chloroethylthio) methane (CAS 63869-13-6);
4. 1,2-bis (2-chloroethylthio) ethane (CAS 3563-36-8);
5. 1,3-bis (2-chloroethylthio) -n-propane (CAS 63905-10-2);
6. 1,4-bis (2-chloroethylthio) -n-butane (CAS 142868-93-7);
7. 1,5-bis (2-chloroethylthio) -n-pentane (CAS 142868-94-8);
8. Bis (2-chloroethylthiomethyl) ether (CAS 63918-90-1);
9. Bis (2-chloroethylthioethyl) ether (CAS 63918-89-8);
- b. Lewisites, such as:
 1. 2-chlorovinylchloroarsine (CAS 541-25-3);
 2. Tris (2-chlorovinyl) arsine (CAS 40334-70-1);
 3. Bis (2-chlorovinyl) chloroarsine (CAS 40334-69-8);
- c. Nitrogen mustards, such as:
 1. HN1: bis (2-chloroethyl) ethylamine (CAS 538-07-8);
 2. HN2: bis (2-chloroethyl) methylamine (CAS 51-75-2);
 3. HN3: tris (2-chloroethyl) amine (CAS 555-77-1);
3. CW incapacitating agents, such as:
 - a. 3-Quinuclidinyl benzilate (BZ) (CAS 6581-06-2);
4. CW defoliants, such as:
 - a. Butyl 2-chloro-4-fluorophenoxyacetate (LNF);
 - b. 2,4,5-trichlorophenoxyacetic acid mixed with 2,4-dichlorophenoxyacetic acid (Agent Orange).
- c. CW binary precursors and key precursors, as follows:
 1. Alkyl (Methyl, Ethyl, n-Propyl or Isopropyl) Phosphonyl Difluorides, such as:

DF: Methyl Phosphonyldifluoride (CAS 676-99-3);
 2. O-Alkyl (H or equal to or less than C10, including cycloalkyl) O-2-dialkyl (Methyl, Ethyl, n-Propyl or Isopropyl) aminoethyl alkyl (Methyl, Ethyl, n-Propyl or Isopropyl) phosphonites and corresponding alkylated and protonated salts, such as:

QL: O-Ethyl-2-di-isopropylaminoethyl methylphosphonite (CAS 57856-11-8);
 3. Chlorosarin: O-Isopropyl methylphosphonochloridate (CAS 1445-76-7);

4. Chlorosoman: O-Pinacolyl methylphosphonochloridate (CAS 7040-57-5);
- d. 'Riot control agents', active constituent chemicals and combinations thereof, including:
1. α -Bromobenzeneacetonitrile, (Bromobenzyl cyanide) (CA) (CAS 5798-79-8);
 2. [(2-chlorophenyl) methylene] propanedinitrile, (o-Chlorobenzylidenemalononitrile (CS) (CAS 2698-41-1);
 3. 2-Chloro-1-phenylethanone, Phenylacetyl chloride (o-chloroacetophenone) (CN) (CAS 532-27-4);
 4. Dibenz-(b,f)-1,4-oxazepine, (CR) (CAS 257-07-8);
 5. 10-Chloro-5,10-dihydrophenarsazine, (Phenarsazine chloride), (Adamsite), (DM) (CAS 578-94-9);
 6. N-Nonanoylmorpholine, (MPA) (CAS 5299-64-9);

Note 1 ML7.d. does not control 'riot control agents' individually packaged for personal self-defence purposes;

Note 2 ML7.d. does not control active constituent chemicals and combinations thereof identified and packaged for food production or medical purposes.

- e. Equipment specially designed or modified for military use, for the dissemination of any of the following and specially designed components therefor:
1. Materials or agents controlled by ML7.a., ML7.b. or ML7.d.; or
 2. CW made up of precursors controlled by ML7.c.
- f. Protective and decontamination equipment, specially designed components therefor, and specially formulated chemical mixtures, as follows:
1. Equipment specially designed or modified for military use, for defence against materials controlled by ML7.a., ML7.b. or ML7.d. and specially designed components therefore.
 2. Equipment specially designed or modified or modified for military use, for the decontamination of objects contaminated with materials controlled by ML7.a. or ML7.b. and specially designed components therefore.
 3. Chemical mixtures specially developed/formulated for the decontamination of objects contaminated with materials controlled by ML7.a. or ML7.b.

Note ML7.f.1. includes:

- a. *Air conditioning units specially designed or modified for nuclear, biological or chemical filtration;*
- b. *Protective clothing.*

NB: For civil gas masks, protective and decontamination equipment see also entry 1A004 on the EU Dual-Use List.

- g. Equipment specially designed or modified for military use, for the detection or identification of materials controlled by ML7.a. or ML7.b. or ML7.d. and specially designed components therefor;

Note ML7.g. does not control personal radiation monitoring dosimeters.

NB: See also entry IA004 on the EU Dual-Use List.

- h. 'Biopolymers' specially designed or processed for the detection or identification of CW agents controlled by ML7.b., and the cultures of specific cells used to produce them;
- i. 'Biocatalysts' for the decontamination or degradation of CW agents, and biological systems therefor, as follows:
1. 'Biocatalysts' specially designed for the decontamination or degradation of CW agents controlled by ML7.b. resulting from directed laboratory selection or genetic manipulation of biological systems;
 2. Biological systems, as follows: 'expression vectors', viruses or cultures of cells containing the genetic information specific to the production of 'biocatalysts' controlled by ML7.i.1.;

Note 1 ML7.b. and ML7.d. do not control:

- a. *Cyanogen chloride (CAS 506-77-4). See IC450.a.5. on the EU Dual-Use List;*
- b. *Hydrocyanic acid (CAS 74-90-8);*
- c. *Chlorine (CAS 7782-50-5);*
- d. *Carbonyl chloride (phosgene) (CAS 75-44-5). See IC450.a.4. on the EU Dual-Use List;*
- e. *Diphosgene (trichloromethyl-chloroformate) (CAS 503-38-8);*
- f. *Deleted;*
- g. *Xylyl bromide, ortho: (CAS 89-92-9), meta: (CAS 620-13-3), para: (CAS 104-81-4);*
- h. *Benzyl bromide (CAS 100-39-0);*
- i. *Benzyl iodide (CAS 620-05-3);*
- j. *Bromo acetone (CAS 598-31-2);*
- k. *Cyanogen bromide (CAS 506-68-3);*
- l. *Bromo methylethylketone (CAS 816-40-0);*
- m. *Chloro acetone (CAS 78-95-5);*
- n. *Ethyl iodoacetate (CAS 623-48-3);*
- o. *Iodo acetone (CAS 3019-04-3);*
- p. *Chloropicrin (CAS 76-06-2). See IC450.a.7. on the EU Dual-Use List.*

Note 2 The cultures of cells and biological systems listed in ML7.h. and ML7.i.2. are exclusive and these sub items do not control cells or biological systems for civil purposes, such as

agricultural, pharmaceutical, medical, veterinary, environmental, waste management, or in the food industry.

‘Energetic materials’, and related substances, as follows:

NB: See also IC011 on the EU Dual-Use List.

Technical Notes

1. *substance being listed in the ML8 sub-items.*
2. *Any substance listed in the ML8 sub-items is controlled by this list, even when utilised in an application other than that indicated. (e.g. TAGN is predominantly used as an explosive but can also be used either as a fuel or an oxidizer.)*
- a. ‘Explosives’, as follows, and mixtures thereof:
 1. ADNBF (aminodinitrobenzofuroxan or 7-amino-4,6-dinitrobenzofurazane-1-oxide) (CAS 97096-78-1);
 2. BNCP (cis-bis (5-nitrotetrazolato) tetra amine-cobalt (III) perchlorate) (CAS 117412-28-9);
 3. CL-14 (diamino dinitrobenzofuroxan or 5,7-diamino-4,6-dinitrobenzofurazane-1-oxide) (CAS 117907-74-1);
 4. CL-20 (HNIW or Hexanitrohexaazaisowurtzitane) (CAS 135285-90-4); chlathrates of CL-20 (see also ML8.g.3. and g.4. for its ‘precursors’);
 5. CP (2-(5-cyanotetrazolato) penta amine-cobalt (III) Perchlorate) (CAS 70247-32-4);
 6. DADE (1,1-diamino-2,2-dinitroethylene, FOX7);
 7. DATB (diaminotrinitrobenzene) (CAS 1630-08-6);
 8. DDFP (1,4-dinitrodifurazanopiperazine);
 9. DDPO (2,6-diamino-3,5-dinitropyrazine-1-oxide, PZO) (CAS 194486-77-6);
 10. DIPAM (3,3’,-diamino-2,2’,4,4’,6,6’-hexanitrobiphenyl or dipicramide) (CAS 17215-44-0);
 11. DNGU (DINGU or dinitroglycoluril) (CAS 55510-04-8);
 12. Furazans, as follows:
 - a. DAAOF (diaminoazoxyfurazan);
 - b. DAAzF (diaminoazofurazan) (CAS 78644-90-3);
 13. HMX and derivatives (see also ML8.g.5. for its ‘precursors’), as follows:
 - a. HMX (Cyclotetramethylenetetranitramine, octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazine, 1,3,5,7-tetranitro-1,3,5,7-tetra-cyclooctane, octogen or octogene) (CAS 2691-41-0);
 - b. difluoroaminated analogs of HMX;

Status: This is the original version (as it was originally adopted).

- c. K-55 (2,4,6,8-tetranitro-2,4,6,8-tetraazabicyclo [3.3,0]-octanone-3, tetranitrosemiglycouril or keto-bicyclic HMX) (CAS 130256-72-3);
- 14. HNAD (hexanitroadamantane) (CAS 143850-71-9);
- 15. HNS (hexanitrostilbene) (CAS 20062-22-0);
- 16. Imidazoles, as follows:
 - a. BNNII (Octahydro-2,5-bis(nitroimino)imidazo [4,5-d]imidazole);
 - b. DNI (2,4-dinitroimidazole) (CAS 5213-49-0);
 - c. FDIA (1-fluoro-2,4-dinitroimidazole);
 - d. NTDNIA (N-(2-nitrotriazolo)-2,4-dinitroimidazole);
 - e. PTIA (1-picryl-2,4,5-trinitroimidazole);
- 17. NTNMH (1-(2-nitrotriazolo)-2-dinitromethylene hydrazine);
- 18. NTO (ONTA or 3-nitro-1,2,4-triazol-5-one) (CAS 932-64-9);
- 19. Polynitrocubanes with more than four nitro groups;
- 20. PYX (2,6-Bis(picrylamino)-3,5-dinitropyridine) (CAS 38082-89-2);
- 21. RDX and derivatives, as follows:
 - a. RDX (cyclotrimethylenetrinitramine, cyclonite, T4, hexahydro-1,3,5-trinitro-1,3,5-triazine, 1,3,5-trinitro-1,3,5-triaza-cyclohexane, hexogen or hexogene) (CAS 121-82-4);
 - b. Keto-RDX (K-6 or 2,4,6-trinitro-2,4,6-triazacyclohexanone) (CAS 115029-35-1);
- 22. TAGN (triaminoguanidinenitrate) (CAS 4000-16-2);
- 23. TATB (triaminotrinitrobenzene) (CAS 3058-38-6) (see also ML8.g.7 for its 'precursors');
- 24. TEDDZ (3,3,7,7-tetrabis(difluoroamine) octahydro-1,5-dinitro-1,5-diazocine);
- 25. Tetrazoles, as follows:
 - a. NTAT (nitrotriazol aminotetrazole);
 - b. NTNT (1-N-(2-nitrotriazolo)-4-nitrotetrazole);
- 26. Tetryl (trinitrophenylmethylnitramine) (CAS 479-45-8);
- 27. TNAD (1,4,5,8-tetranitro-1,4,5,8-tetraazadecalin) (CAS 135877-16-6) (see also ML8.g.6. for its 'precursors');
- 28. TNAZ (1,3,3-trinitroazetidine) (CAS 97645-24-4) (see also ML8.g.2. for its 'precursors');
- 29. TNGU (SORGUYL or tetranitroglycoluril) (CAS 55510-03-7);

30. TNP (1,4,5,8-tetranitro-pyridazino[4,5-d]pyridazine) (CAS 229176-04-9);
 31. Triazines, as follows:
 - a. DNAM (2-oxy-4,6-dinitroamino-s-triazine) (CAS 19899-80-0);
 - b. NNHT (2-nitroimino-5-nitro-hexahydro-1,3,5-triazine) (CAS 130400-13-4);
 32. Triazoles, as follows:
 - a. 5-azido-2-nitrotriazole;
 - b. ADHTDN (4-amino-3,5-dihydrazino-1,2,4-triazole dinitramide) (CAS 1614-08-0);
 - c. ADNT (1-amino-3,5-dinitro-1,2,4-triazole);
 - d. BDNTA ([bis-dinitrotriazole]amine);
 - e. DBT (3,3'-dinitro-5,5-bi-1,2,4-triazole) (CAS 30003-46-4);
 - f. DNBT (dinitrobistriazole) (CAS 70890-46-9);
 - g. NTDNA (2-nitrotriazole 5-dinitramide) (CAS 75393-84-9);
 - h. NTDNT (1-N-(2-nitrotriazolo) 3,5-dinitrotriazole);
 - i. PDNT (1-picryl-3,5-dinitrotriazole);
 - j. TACOT (tetranitrobenzotriazolobenzotriazole) (CAS 25243-36-1);
 33. Any explosive not listed elsewhere in ML8.a. with a detonation velocity exceeding 8 700 m/s at maximum density or a detonation pressure exceeding 34 GPa (340 kbar);
 34. Other organic explosives not listed elsewhere in ML8.a. yielding detonation pressures of 25 GPa (250 kbar) or more that will remain stable at temperatures of 523 K (250 °C) or higher for periods of five minutes or longer.
- b. 'Propellants', as follows:
1. Any United Nations (UN) Class 1.1 solid 'propellant' with a theoretical specific impulse (under standard conditions) of more than 250 seconds for non-metallised, or more than 270 seconds for aluminised compositions;
 2. Any UN Class 1.3 solid 'propellant' with a theoretical specific impulse (under standard conditions) of more than 230 seconds for non-halogenised, 250 seconds for non-metallised compositions and 266 seconds for metallised compositions;
 3. 'Propellants' having a force constant of more than 1 200 kJ/kg;
 4. 'Propellants' that can sustain a steady-state linear burning rate of more than 38 mm/s under standard conditions (as measured in the form of an inhibited single strand) of 6,89 MPa (68,9 bar) pressure and 294 K (21 °C);

5. Elastomer modified cast double base (EMCDB) ‘propellants’ with extensibility at maximum stress of more than 5 % at 233 K (-40 °C);
 6. Any ‘propellant’ containing substances listed in ML8.a.
- c. ‘Pyrotechnics’, fuels and related substances, as follows, and mixtures thereof:
1. Aircraft fuels specially formulated for military purposes;
 2. Alane (aluminum hydride) (CAS 7784-21-6);
 3. Carboranes; decaborane (CAS 17702-41-9); pentaboranes (CAS 19624-22-7 and 18433-84-6) and their derivatives;
 4. Hydrazine and derivatives, as follows (see also ML8.d.8. and d.9. for oxidising hydrazine derivatives):
 - a. Hydrazine (CAS 302-01-2) in concentrations of 70 % or more;
 - b. Monomethyl hydrazine (CAS 60-34-4);
 - c. Symmetrical dimethyl hydrazine (CAS 540-73-8);
 - d. Unsymmetrical dimethyl hydrazine (CAS 57-14-7);
 5. Metal fuels in particle form whether spherical, atomised, spheroidal, flaked or ground, manufactured from material consisting of 99 % or more of any of the following:
 - a. Metals and mixtures thereof, as follows:
 1. Beryllium (CAS 7440-41-7) in particle sizes of less than 60 µm;
 2. Iron powder (CAS 7439-89-6) with particle size of 3 µm or less produced by reduction of iron oxide with hydrogen;
 - b. Mixtures, which contain any of the following:
 1. Zirconium (CAS 7440-67-7), magnesium (CAS 7439-95-4) or alloys of these in particle sizes of less than 60 µm;
 2. Boron (CAS 7440-42-8) or boron carbide (CAS 12069-32-8) fuels of 85 % purity or higher and particle sizes of less than 60 µm;
 6. Military materials containing thickeners for hydrocarbon fuels specially formulated for use in flame-throwers or incendiary munitions, such as metal stearates or palmates (e.g. octal (CAS 637-12-7)) and M1, M2, and M3 thickeners;
 7. Perchlorates, chlorates and chromates composited with powdered metal or other high energy fuel components;
 8. Spherical aluminum powder (CAS 7429-90-5) with a particle size of 60 µm or less, manufactured from material with an aluminum content of 99 % or more;

9. Titanium subhydride (TiH_n) of stoichiometry equivalent to $n = 0,65$ to $1,68$.

Note 1 Aircraft fuels controlled by ML8.c.1. are finished products not their constituents.

Note 2 ML8.c.4.a. does not control hydrazine mixtures specially formulated for corrosion control.

Note 3 Explosives and fuels containing the metals or alloys listed in ML8.c.5. are controlled whether or not the metals or alloys are encapsulated in aluminum, magnesium, zirconium, or beryllium.

Note 4 ML8.c.5.b.2. does not control boron and boron carbide enriched with boron-10 (20 % or more of total boron-10 content).

d. Oxidizers, as follows, and mixtures thereof:

1. ADN (ammonium dinitramide or SR 12) (CAS 140456-78-6);

2. AP (ammonium perchlorate) (CAS 7790-98-9);

3. Compounds composed of fluorine and any of the following:

a. Other halogens;

b. Oxygen; or

c. Nitrogen;

Note 1 ML8.d.3 does not control chlorine trifluoride. See IC238 on the EU Dual-Use List.

Note 2 ML8.d.3 does not control nitrogen trifluoride in its gaseous state.

4. DNAD (1,3-dinitro-1,3-diazetidine) (CAS 78246-06-7);

5. HAN (hydroxylammonium nitrate) (CAS 13465-08-2);

6. HAP (hydroxylammonium perchlorate) (CAS 15588-62-2);

7. HNF (hydrazinium nitroformate) (CAS 20773-28-8);

8. Hydrazine nitrate (CAS 37836-27-4);

9. Hydrazine perchlorate (CAS 27978-54-7);

10. Liquid oxidisers comprised of or containing inhibited red fuming nitric acid (IRFNA) (CAS 8007-58-7);

Note ML8.d.10 does not control non-inhibited fuming nitric acid.

e. Binders, plasticisers, monomers, polymers, as follows:

1. AMMO (azidomethylmethyloxetane and its polymers) (CAS 90683-29-7) (see also ML8.g.1. for its 'precursors');

2. BAMO (bisazidomethylmethyloxetane and its polymers) (CAS 17607-20-4) (see also ML8.g.1. for its 'precursors');

3. BDNPA (bis (2,2-dinitropropyl)acetal) (CAS 5108-69-0);
 4. BDNPF (bis (2,2-dinitropropyl)formal) (CAS 5917-61-3);
 5. BTTN (butanetrioltrinitrate) (CAS 6659-60-5) (see also ML8.g.8. for its 'precursors');
 6. Energetic monomers, plasticisers and polymers containing nitro, azido, nitrate, nitraza or difluoroamino groups specially formulated for military use;
 7. FAMA0 (3-difluoroaminomethyl-3-azidomethyl oxetane) and its polymers;
 8. FEFO (bis-(2-fluoro-2,2-dinitroethyl) formal) (CAS 17003-79-1);
 9. FPF-1 (poly-2.2,3.3,4,4-hexafluoropentane-1,5-diol formal) (CAS 376-90-9);
 10. FPF-3 (poly-2.4,4.5,5.6,6-heptafluoro-2-tri-fluoromethyl-3-oxaheptane-1,7-diol formal);
 11. GAP (glycidylazide polymer) (CAS 143178-24-9) and its derivatives;
 12. HTPB (hydroxyl terminated polybutadiene) with a hydroxyl functionality equal to or greater than 2.2 and less than or equal to 2.4, a hydroxyl value of less than 0,77 meq/g, and a viscosity at 30 °C of less than 47 poise (CAS 69102-90-5);
 13. Low (less than 10 000) molecular weight, alcohol functionalised, poly(epichlorohydrin); poly(epichlorohydrindiol) and triol;
 14. NENAs (nitrateethylnitramine compounds) (CAS 17096-47-8, 85068-73-1, 82486-83-7, 82486-82-6 and 85954-06-9);
 15. PGN (poly-GLYN, polyglycidylnitrate or poly(nitratomethyl oxirane) (CAS 27814-48-8);
 16. Poly-NIMMO (poly nitratomethylmethyloxetane) or poly-NMMO (poly[3-Nitratomethyl-3-methyloxetane]) (CAS 84051-81-0);
 17. Polynitroorthocarbonates;
 18. TVOPA (1,2,3-tris[1,2-bis(difluoroamino)ethoxy] propane or tris vinoxyl propane adduct) (CAS 53159-39-0).
- f. Additives, as follows:
1. Basic copper salicylate (CAS 62320-94-9);
 2. BHEGA (bis-(2-hydroxyethyl) glycolamide) (CAS 17409-41-5);
 3. BNO (butadienenitrileoxide) (CAS 9003-18-3);
 4. Ferrocene derivatives, as follows:
 - a. Butacene (CAS 125856-62-4);
 - b. Catocene (2,2-bis-ethylferrocenyl propane) (CAS 37206-42-1);
 - c. Ferrocene carboxylic acids;

- d. n-butyl-ferrocene (CAS 31904-29-7);
- e. Other adducted polymer ferrocene derivatives;
5. Lead beta-resorcyate (CAS 20936-32-7);
6. Lead citrate (CAS 14450-60-3);
7. Lead-copper chelates of beta-resorcyate or salicylates (CAS 68411-07-4);
8. Lead maleate (CAS 19136-34-6);
9. Lead salicylate (CAS 15748-73-9);
10. Lead stannate (CAS 12036-31-6);
11. MAPO (tris-1-(2-methyl)aziridinyl phosphine oxide) (CAS 57-39-6); BOBBA 8 (bis(2-methyl aziridinyl) 2-(2-hydroxypropanoxy) propylamino phosphine oxide); and other MAPO derivatives;
12. Methyl BAPO (bis(2-methyl aziridinyl) methylamino phosphine oxide) (CAS 85068-72-0);
13. N-methyl-p-nitroaniline (CAS 100-15-2);
14. 3-Nitrazo-1,5-pentane diisocyanate (CAS 7406-61-9);
15. Organo-metallic coupling agents, as follows:
 - a. Neopentyl[diallyl]oxy, tri[diethyl]phosphato-titanate (CAS 103850-22-2); also known as titanium IV, 2.2[bis 2-propenolato-methyl, butanolato, tris (diethyl) phosphato] (CAS 110438-25-0); or LICA 12 (CAS 103850-22-2);
 - b. Titanium IV, [(2-propenolato-1) methyl, n-propanolatomethyl] butanolato-1, tris[diethyl] pyrophosphate or KR3538;
 - c. Titanium IV, [(2-propenolato-1)methyl, n-propanolatomethyl] butanolato-1, tris(diethyl)- phosphate;
16. Polycyanodifluoroaminoethyleneoxide;
17. Polyfunctional aziridine amides with isophthalic, trimesic (BITA or butylene imine tri-mesamide), isocyanuric or trimethyladipic backbone structures and 2-methyl or 2-ethyl substitutions on the aziridine ring;
18. Propyleneimine (2-methylaziridine) (CAS 75-55-8);
19. Superfine iron oxide (Fe₂O₃) with a specific surface area more than 250 m²/g and an average particle size of 3,0 nm or less;
20. TEPAN (tetraethylenepentaamineacrylonitrile) (CAS 68412-45-3); cyanoethylated polyamines and their salts;
21. TEPANOL (tetraethylenepentaamineacrylonitrileglycidol) (CAS 68412-46-4); cyanoethylated polyamines adducted with glycidol and their salts;
22. TPB (triphenyl bismuth) (CAS 603-33-8).

g. 'Precursors', as follows:

NB: In ML8.g. the references are to controlled 'Energetic Materials' manufactured from these substances.

1. BCMO (bischloromethyloxetane) (CAS 142173-26-0) (see also ML8.e.1. and e.2.);
2. Dinitroazetidine-t-butyl salt (CAS 125735-38-8) (see also ML8.a.28.);
3. HBIW (hexabenzylhexaazaisowurtzitane) (CAS 124782-15-6) (see also ML8.a.4.);
4. TAIW (tetraacetyldibenzylhexaazaisowurtzitane) (see also ML8.a.4.);
5. TAT (1,3,5,7 tetraacetyl-1,3,5,7,-tetraaza cyclo-octane) (CAS 41378-98-7) (see also ML8.a.13.);
6. 1,4,5,8-tetraazadecalin (CAS 5409-42-7) (see also ML8.a.27.);
7. 1,3,5-trichlorobenzene (CAS 108-70-3) (see also ML8.a.23.);
8. 1,2,4-trihydroxybutane (1,2,4-butanetriol) (CAS 3068-00-6) (see also ML8.e.5.).

Note 5 For charges and devices see ML4.

Note 6 ML8 does not control the following substances unless they are compounded or mixed with the 'energetic material' mentioned in ML8.a. or powdered metals in ML8.c.:

- a. *Ammonium picrate;*
- b. *Black powder;*
- c. *Hexanitrodiphenylamine;*
- d. *Difluoroamine;*
- e. *Nitrostarch;*
- f. *Potassium nitrate;*
- g. *Tetranitronaphthalene;*
- h. *Trinitroanisol;*
- i. *Trinitronaphthalene;*
- j. *Trinitroxylene;*
- k. *N-pyrrolidinone; 1-methyl-2-pyrrolidinone;*
- l. *Diocylmaleate;*
- m. *Ethylhexylacrylate;*
- n. *Triethylaluminium (TEA), trimethylaluminium (TMA), and other pyrophoric metal alkyls and aryls of lithium, sodium, magnesium, zinc or boron;*
- o. *Nitrocellulose;*
- p. *Nitroglycerin (or glyceroltrinitrate, trinitroglycerine) (NG);*

- q. *2,4,6-trinitrotoluene (TNT);*
- r. *Ethylenediaminedinitrate (EDDN);*
- s. *Pentaerythritoltetranitrate (PETN);*
- t. *Lead azide, normal and basic lead styphnate, and primary explosives or priming compositions containing azides or azide complexes;*
- u. *Triethyleneglycoldinitrate (TEGDN);*
- v. *2,4,6-trinitroresorcinol (styphnic acid);*
- w. *Diethyldiphenyl urea; dimethylidiphenyl urea; methylethyldiphenyl urea [Centralites];*
- x. *N,N-diphenylurea (unsymmetrical diphenylurea);*
- y. *Methyl-N,N-diphenylurea (methyl unsymmetrical diphenylurea);*
- z. *Ethyl-N,N-diphenylurea (ethyl unsymmetrical diphenylurea);*
- aa. *2-Nitrodiphenylamine (2-NDPA);*
- bb. *4-Nitrodiphenylamine (4-NDPA);*
- cc. *2,2-dinitropropanol;*
- dd. *Nitroguanidine (see IC011.d. on the EU Dual-Use List).*

Vessels of war, special naval equipment and accessories, as follows, and components therefor, specially designed for military use:

NB: For guidance and navigation equipment, see ML11, Note 7.

- a. Combatant vessels and vessels (surface or underwater) specially designed or modified for offensive or defensive action, whether or not converted to non-military use, regardless of current state of repair or operating condition, and whether or not they contain weapon delivery systems or armour, and hulls or parts of hulls for such vessels;
- b. Engines and propulsion systems, as follows:
 - 1. Diesel engines specially designed for submarines with both of the following characteristics:
 - a. A power output of 1,12 MW (1 500 h.p.) or more; and
 - b. A rotary speed of 700 rpm or more;
 - 2. Electric motors specially designed for submarines having all of the following characteristics:
 - a. A power output of more than 0,75 MW (1 000 h.p.);
 - b. Quick reversing;
 - c. Liquid cooled; and
 - d. Totally enclosed;

3. Non-magnetic diesel engines specially designed for military use with a power output of 37,3 kW (50 h.p.) or more and with a non-magnetic content in excess of 75 % of total mass;
4. Air Independent Propulsion systems specially designed for submarines;
Technical Note

'Air Independent Propulsion' allows a submerged submarine to operate its propulsion system, without access to atmospheric oxygen, for a longer time than the batteries would have otherwise allowed. This does not include nuclear power.

- c. Underwater detection devices specially designed for military use and controls thereof;
- d. Submarine and torpedo nets;
- e. Not used;
- f. Hull penetrators and connectors specially designed for military use that enable interaction with equipment external to a vessel;

Note ML9.f. includes connectors for vessels which are of the single-conductor, multi-conductor, coaxial or waveguide type, and hull penetrators for vessels, both of which are capable of remaining impervious to leakage from without and of retaining required characteristics at marine depths exceeding 100 m; and fibre-optic connectors and optical hull penetrators specially designed for 'laser' beam transmission regardless of depth. It does not include ordinary propulsive shaft and hydro-dynamic control-rod hull penetrators.

- g. Silent bearings, with gas or magnetic suspension, active signature or vibration suppression controls, and equipment containing those bearings, specially designed for military use.
- 'Aircraft', 'lighter-than-air vehicles', unmanned airborne vehicles, aero-engines and 'aircraft' equipment, related equipment and components, specially designed or modified for military use, as follows:

NB: For guidance and navigation equipment, see ML11, Note 7.

- a. Combat 'aircraft' and specially designed components therefor;
- b. Other 'aircraft' and 'lighter-than-air vehicles' specially designed or modified for military use, including military reconnaissance, assault, military training, transporting and airdropping troops or military equipment, logistics support, and specially designed components therefor;
- c. Unmanned airborne vehicles and related equipment, specially designed or modified for military use, as follows, and specially designed components therefor:
 1. Unmanned airborne vehicles including remotely piloted air vehicles (RPVs), autonomous programmable vehicles and 'lighter-than-air vehicles';
 2. Associated launchers and ground support equipment;
 3. Related equipment for command and control;
- d. Aero-engines specially designed or modified for military use, and specially designed components therefor;

- e. Airborne equipment, including airborne refuelling equipment, specially designed for use with the 'aircraft' controlled by ML10.a. or ML10.b. or the aero-engines controlled by ML10.d., and specially designed components therefor;
- f. Pressure refuellers, pressure refuelling equipment, equipment specially designed to facilitate operations in confined areas and ground equipment, developed specially for 'aircraft' controlled by ML10.a. or ML10.b., or for aero-engines controlled by ML10.d.;
- g. Military crash helmets and protective masks and specially designed components therefor, pressurised breathing equipment and partial pressure suits for use in 'aircraft', anti-g suits, liquid oxygen converters used for 'aircraft' or missiles, and catapults and cartridge actuated devices for emergency escape of personnel from 'aircraft';
- h. Parachutes and related equipment, used for combat personnel, cargo dropping or 'aircraft' deceleration, as follows, and specially designed components therefor:
 - 1. Parachutes for:
 - a. Pinpoint dropping of rangers;
 - b. Dropping of paratroopers;
 - 2. Cargo parachutes;
 - 3. Paragliders, drag parachutes, drogue parachutes for stabilisation and attitude control of dropping bodies, (e.g. recovery capsules, ejection seats, bombs);
 - 4. Drogue parachutes for use with ejection seat systems for deployment and inflation sequence regulation of emergency parachutes;
 - 5. Recovery parachutes for guided missiles, drones or space vehicles;
 - 6. Approach parachutes and landing deceleration parachutes;
 - 7. Other military parachutes;
 - 8. Equipment specially designed for high altitude parachutists (e.g. suits, special helmets, breathing systems, navigation equipment);
- i. Automatic piloting systems for parachuted loads; equipment specially designed or modified for military use for controlled opening jumps at any height, including oxygen equipment.

Note 1 ML10.b. does not control 'aircraft' or variants of those 'aircraft' specially designed for military use which:

- a. *Are not configured for military use and are not fitted with equipment or attachments specially designed or modified for military use; and*
- b. *Have been certified for civil use by the civil aviation authority in a Wassenaar Arrangement participating state.*

Note 2 ML10.d. does not control:

- a. *Aero-engines designed or modified for military use which have been certified by civil aviation authorities in a Wassenaar Arrangement participating state for use in 'civil aircraft', or specially designed components therefor;*

- b. *Reciprocating engines or specially designed components therefor, except those specially designed for unmanned airborne vehicles.*

Note 3 The control in ML10.b. and ML10.d. on specially designed components and related equipment for non-military 'aircraft' or aero-engines modified for military use applies only to those military components and to military related equipment required for the modification to military use.

Electronic equipment not controlled elsewhere on the eu common military list, as follows, and specially designed components therefor:

- a. Electronic equipment specially designed for military use;

Note ML11 includes:

1. *Electronic countermeasure and electronic counter-countermeasure equipment (i.e. equipment designed to introduce extraneous or erroneous signals into radar or radio communication receivers or otherwise hinder the reception, operation or effectiveness of adversary electronic receivers including their countermeasure equipment), including jamming and counter-jamming equipment;*
2. *Frequency agile tubes;*
3. *Electronic systems or equipment designed either for surveillance and monitoring of the electromagnetic spectrum for military intelligence or security purposes or for counteracting such surveillance and monitoring;*
4. *Underwater countermeasures, including acoustic and magnetic jamming and decoy, equipment designed to introduce extraneous or erroneous signals into sonar receivers;*
5. *Data processing security equipment, data security equipment and transmission and signalling line security equipment, using ciphering processes;*
6. *Identification, authentication and keyloader equipment and key management, manufacturing and distribution equipment;*
7. *Guidance and navigation equipment;*
8. *Digital troposcatter-radio communications transmission equipment;*
9. *Digital demodulators specially designed for signals intelligence.*

- b. Global Navigation Satellite Systems (GNSS) jamming equipment.

High velocity kinetic energy weapon systems and related equipment, as follows, and specially designed components therefor:

- a. Kinetic energy weapon systems specially designed for destruction or effecting mission-abort of a target;
- b. Specially designed test and evaluation facilities and test models, including diagnostic instrumentation and targets, for dynamic testing of kinetic energy projectiles and systems.

NB: For weapon systems using sub-calibre ammunition or employing solely chemical propulsion, and ammunition therefor, see ML1 to ML4.

Note 1 ML12 includes the following when specially designed for kinetic energy weapon systems:

- a. *Launch propulsion systems capable of accelerating masses larger than 0,1 g to velocities in excess of 1,6 km/s, in single or rapid fire modes;*
- b. *Prime power generation, electric armour, energy storage, thermal management, conditioning, switching or fuel-handling equipment; and electrical interfaces between power supply, gun and other turret electric drive functions;*
- c. *Target acquisition, tracking, fire control or damage assessment systems;*
- d. *Homing seeker, guidance or divert propulsion (lateral acceleration) systems for projectiles.*

Note 2 ML12 controls weapon systems using any of the following methods of propulsion:

- a. *Electromagnetic;*
- b. *Electrothermal;*
- c. *Plasma;*
- d. *Light gas; or*
- e. *Chemical (when used in combination with any of the above).*

Armoured or protective equipment and constructions and components, as follows:

- a. *Armoured plate as follows:*
 1. *Manufactured to comply with a military standard or specification; or*
 2. *Suitable for military use;*
- b. *Constructions of metallic or non-metallic materials or combinations thereof specially designed to provide ballistic protection for military systems, and specially designed components therefor;*
- c. *Helmets manufactured according to military standards or specifications, or comparable national standards, and specially designed components therefor, i.e. helmet shell, liner and comfort pads;*
- d. *Body armour and protective garments manufactured according to military standards or specifications, or equivalent, and specially designed components therefor.*

Note 1 ML13.b. includes materials specially designed to form explosive reactive armour or to construct military shelters.

Note 2 ML13.c. does not control conventional steel helmets, neither modified or designed to accept, nor equipped with any type of accessory device.

Note 3 ML13.c. and d. do not control helmets, body armour or protective garments when accompanying their user for the user's own personal protection.

Note 4 The only helmets specially designed for bomb disposal personnel that are controlled by ML13. are those specially designed for military use.

NB 1: See also entry 1A005 on the EU Dual-Use List.

NB 2: For 'fibrous or filamentary materials' used in the manufacture of body armour and helmets, see entry 1C010 on the EU Dual-Use List.

Specialised equipment for military training or for simulating military scenarios, simulators specially designed for training in the use of any firearm or weapon controlled by ML1 or ML2, and specially designed components and accessories therefor.

Technical Note

The term 'specialised equipment for military training' includes military types of attack trainers, operational flight trainers, radar target trainers, radar target generators, gunnery training devices, anti-submarine warfare trainers, flight simulators (including human-rated centrifuges for pilot/astronaut training), radar trainers, instrument flight trainers, navigation trainers, missile launch trainers, target equipment, drone 'aircraft', armament trainers, pilotless 'aircraft' trainers, mobile training units and training equipment for ground military operations.

Note 1 ML14 includes image generating and interactive environment systems for simulators when specially designed or modified for military use.

Note 2 ML14 does not control equipment specially designed for training in the use of hunting or sporting weapons.

Imaging or countermeasure equipment, as follows, specially designed for military use, and specially designed components and accessories therefor:

- a. Recorders and image processing equipment;
- b. Cameras, photographic equipment and film processing equipment;
- c. Image intensifier equipment;
- d. Infrared or thermal imaging equipment;
- e. Imaging radar sensor equipment;
- f. Countermeasure or counter-countermeasure equipment for the equipment controlled by sub-items ML15.a. to ML15.e.

Note ML15.f. includes equipment designed to degrade the operation or effectiveness of military imaging systems or to minimize such degrading effects.

Note 1 The term 'specially designed components' includes the following when specially designed for military use:

- a. *Infrared image converter tubes;*
- b. *Image intensifier tubes (other than first generation);*
- c. *Microchannel plates;*
- d. *Low-light-level television camera tubes;*
- e. *Detector arrays (including electronic interconnection or readout systems);*
- f. *Pyroelectric television camera tubes;*
- g. *Cooling systems for imaging systems;*
- h. *Electrically triggered shutters of the photochromic or electro-optical type having a shutter speed of less than 100 μ s, except in the case of shutters which are an essential part of a high-speed camera;*
- i. *Fibre optic image inverters;*
- j. *Compound semiconductor photocathodes*

Note 2 ML15 does not control 'first generation image intensifier tubes' or equipment specially designed to incorporate 'first generation image intensifier tubes'.

NB: For the status of weapons sights incorporating 'first generation image intensifier tubes' see entries ML1., ML2. and ML5.a.

NB: See also entries 6A002.a.2. and 6A002.b. on the EU Dual-Use List.

Forgings, castings and other unfinished products the use of which in a controlled product is identifiable by material composition, geometry or function, and which are specially designed for any products controlled by ML1 TO ML4, ML6, ML9, ML10, ML12 OR ML19.

Miscellaneous equipment, materials and libraries, as follows, and specially designed components therefor:

- a. Self-contained diving and underwater swimming apparatus, as follows:
 1. Closed or semi-closed circuit (rebreathing) apparatus specially designed for military use (i.e. specially designed to be non-magnetic);
 2. Specially designed components for use in the conversion of open-circuit apparatus to military use;
 3. Articles designed exclusively for military use with self-contained diving and underwater swimming apparatus;
- b. Construction equipment specially designed for military use;
- c. Fittings, coatings and treatments for signature suppression, specially designed for military use;
- d. Field engineer equipment specially designed for use in a combat zone;
- e. 'Robots', 'robot' controllers and 'robot' 'end-effectors', having any of the following characteristics:
 1. Specially designed for military use;
 2. Incorporating means of protecting hydraulic lines against externally induced punctures caused by ballistic fragments (e.g. incorporating self-sealing lines) and designed to use hydraulic fluids with flash points higher than 839 K (566 °C); or
 3. Specially designed or rated for operating in an electro magnetic pulse (EMP) environment;
- f. Libraries (parametric technical databases) specially designed for military use with equipment controlled by the EU Common Military List;
- g. Nuclear power generating equipment or propulsion equipment, including 'nuclear reactors', specially designed for military use and components therefor specially designed or modified for military use;
- h. Equipment and material, coated or treated for signature suppression, specially designed for military use, other than those controlled elsewhere in the EU Common Military List;
- i. Simulators specially designed for military 'nuclear reactors';
- j. Mobile repair shops specially designed or modified to service military equipment;

- k. Field generators specially designed or modified for military use;
- l. Containers specially designed or modified for military use;
- m. Ferries, other than those controlled elsewhere in the EU Common Military List, bridges and pontoons, specially designed for military use;
- n. Test models specially designed for the ‘development’ of items controlled by ML4, ML6, ML9 or ML10;
- o. Laser protection equipment (e.g. eye and sensor protection) specially designed for military use.

Technical Note

1. *For the purpose of ML17, the term ‘library’ (parametric technical database) means a collection of technical information of a military nature, reference to which may enhance the performance of military equipment or systems.*
2. *For the purpose of ML17, ‘modified’ means any structural, electrical, mechanical, or other change that provides a non-military item with military capabilities equivalent to an item which is specially designed for military use.*

Equipment for the production of products controlled by the eu common military list, as follows:

- a. Specially designed or modified production equipment for the production of products controlled by the EU Common Military List, and specially designed components therefor;
- b. Specially designed environmental test facilities and specially designed equipment therefor, for the certification, qualification or testing of products controlled by the EU Common Military List.

Technical Note

For the purposes of ML18, the term ‘production’ includes design, examination, manufacture, testing and checking.

Note ML18.a. and ML18.b. include the following equipment:

- a. *Continuous nitrators;*
- b. *Centrifugal testing apparatus or equipment having any of the following characteristics:*
 1. *Driven by a motor or motors having a total rated horsepower of more than 298 kW (400 h.p.);*
 2. *Capable of carrying a payload of 113 kg or more; or*
 3. *Capable of exerting a centrifugal acceleration of 8 g or more on a payload of 91 kg or more;*
- c. *Dehydration presses;*
- d. *Screw extruders specially designed or modified for military explosive extrusion;*
- e. *Cutting machines for the sizing of extruded propellants;*
- f. *Sweetie barrels (tumblers) 1,85 m or more in diameter and having over 227 kg product capacity;*

- g. *Continuous mixers for solid propellants;*
- h. *Fluid energy mills for grinding or milling the ingredients of military explosives;*
- i. *Equipment to achieve both sphericity and uniform particle size in metal powder listed in ML8.c.8.;*
- j. *Convection current converters for the conversion of materials listed in ML8.c.3.*

Directed energy weapon systems (dew), related or countermeasure equipment and test models, as follows, and specially designed components therefor:

- a. 'Laser' systems specially designed for destruction or effecting mission-abort of a target;
- b. Particle beam systems capable of destruction or effecting mission-abort of a target;
- c. High power radio-frequency (RF) systems capable of destruction or effecting mission-abort of a target;
- d. Equipment specially designed for the detection or identification of, or defence against, systems controlled by ML19.a. to ML19.c.;
- e. Physical test models for the systems, equipment and components controlled by this Item.
- f. Continuous wave or pulsed 'laser' systems specially designed to cause permanent blindness to unenhanced vision, i.e. to the naked eye or to the eye with corrective eyesight devices.

Note 1 Directed energy weapon systems controlled by ML19 include systems whose capability is derived from the controlled application of:

- a. *'Lasers' of sufficient continuous wave or pulsed power to effect destruction similar to the manner of conventional ammunition;*
- b. *Particle accelerators which project a charged or neutral particle beam with destructive power;*
- c. *High pulsed power or high average power radio frequency beam transmitters which produce fields sufficiently intense to disable electronic circuitry at a distant target.*

Note 2 ML19 includes the following when specially designed for directed energy weapon systems:

- a. *Prime power generation, energy storage, switching, power conditioning or fuel-handling equipment;*
- b. *Target acquisition or tracking systems;*
- c. *Systems capable of assessing target damage, destruction or mission-abort;*
- d. *Beam-handling, propagation or pointing equipment;*
- e. *Equipment with rapid beam slew capability for rapid multiple target operations;*
- f. *Adaptive optics and phase conjugators;*
- g. *Current injectors for negative hydrogen ion beams;*
- h. *'Space qualified' accelerator components;*

- i. *Negative ion beam funnelling equipment;*
- j. *Equipment for controlling and slewing a high energy ion beam;*
- k. *'Space qualified' foils for neutralising negative hydrogen isotope beams.*
Cryogenic and 'superconductive' equipment, as follows, and specially designed components and accessories therefor:

- a. Equipment specially designed or configured to be installed in a vehicle for military ground, marine, airborne or space applications, capable of operating while in motion and of producing or maintaining temperatures below 103 K (-170 °C);

Note ML20.a. includes mobile systems incorporating or employing accessories or components manufactured from non-metallic or non electrical conductive materials, such as plastics or epoxy-impregnated materials.

- b. 'Superconductive' electrical equipment (rotating machinery and transformers) specially designed or configured to be installed in a vehicle for military ground, marine, airborne or space applications, capable of operating while in motion.

Note ML20.b. does not control direct current hybrid homopolar generators that have single-pole normal metal armatures which rotate in a magnetic field produced by superconducting windings, provided those windings are the only superconducting component in the generator.

'Software', as follows:

- a. 'Software' specially designed or modified for the 'development', 'production' or 'use' of equipment or materials controlled by the EU Common Military List;
- b. Specific 'software', as follows:

- 1. 'Software' specially designed for:
 - a. Modelling, simulation or evaluation of military weapon systems;
 - b. 'Development', monitoring, maintenance or updating of 'software' embedded in military weapon systems;
 - c. Modelling or simulating military operation scenarios;
 - d. Command, Communications, Control and Intelligence (C3I) or Command, Communications, Control, Computer and Intelligence (C4I) applications;
- 2. 'Software' for determining the effects of conventional, nuclear, chemical or biological warfare weapons.
- 3. 'Software', not controlled by ML21.a., b.1. or b.2., specially designed or modified to enable equipment not controlled by the EU Common Military List to perform the military functions of equipment controlled by the EU Common Military List.

'Technology' as follows:

- a. 'Technology', other than specified in ML22.b., which is 'required' for the 'development', 'production' or 'use' of items controlled in the Common Military List of The European Union.
- b. 'Technology' as follows:

1. 'Technology' 'required' for the design of, the assembly of components into, and the operation, maintenance and repair of complete production installations for items controlled in the Common Military List of The European Union, even if the components of such production installations are not controlled;
2. 'Technology' 'required' for the 'development' and 'production' of small arms even if used to produce reproductions of antique small arms;
3. 'Technology' 'required' for the 'development', 'production' or 'use' of toxicological agents, related equipment or components controlled by ML7.a. to ML7.g.;
4. 'Technology' 'required' for the 'development', 'production' or 'use' of 'biopolymers' or cultures of specific cells controlled by ML7.h.;
5. 'Technology' 'required' exclusively for the incorporation of 'biocatalysts', controlled by ML7.i.1., into military carrier substances or military material.

Note 1 'Technology' 'required' for the 'development', 'production' or 'use' of items controlled in the EU Common Military List remains under control even when applicable to any uncontrolled item.

Note 2 ML22 does not control 'technology' as follows:

- a. *Which is the minimum necessary for the installation, operation, maintenance (checking) and repair of those items which are not controlled or whose export has been authorised;*
- b. *Which is 'in the public domain', 'basic scientific research' or the minimum necessary information for patent applications;*
- c. *For magnetic induction for continuous propulsion of civil transport devices.*

Status: This is the original version (as it was originally adopted).

- (1) Opinion delivered on 23 October 2008 (not yet published in the Official Journal).
- (2) Opinion of the European Parliament of 16 December 2008 (not yet published in the Official Journal) and Council Decision of 23 April 2009.
- (3) [OJ L 88, 29.3.2007, p. 58.](#)
- (4) [OJ L 338, 9.12.1997, p. 1.](#)
- (5) [OJ L 256, 13.9.1991, p. 51.](#)
- (6) [OJ L 121, 15.5.1993, p. 20.](#)
- (7) [OJ L 335, 13.12.2008, p. 99.](#)
- (8) [OJ L 184, 17.7.1999, p. 23.](#)
- (9) [OJ C 321, 31.12.2003, p. 1.](#)
- (10) [OJ L 302, 19.10.1992, p. 1.](#)