

DEPARTMENT OF TRADE, INDUSTRY AND COMPETITION

NO. 320

8 April 2021

**NON-PROLIFERATION OF WEAPONS OF MASS DESTRUCTION ACT, 1993
(ACT NO. 87 OF 1993)****DECLARATION OF CERTAIN CHEMICAL GOODS AS CONTROLLED GOODS
AND CONTROL MEASURES APPLICABLE TO SUCH GOODS****Definitions**

1. In this Notice any word or expression to which a meaning has been assigned in the Non-Proliferation of Weapons of Mass Destruction Act, 1993 (Act No. 87 of 1993), or the Chemical Weapons Convention, as the case may be, shall have the meaning so assigned and, unless the context otherwise indicates—

"antiplant agent" means any chemical listed in Annexure F to this Notice, which can defoliate plants or which can destroy crops or plants or which can sterilise the soil to prevent plant growth;

"Chemical Weapons Convention" means the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction;

"development" means all phases before production, and includes conceptualisation, research, analysis, testing, configuration or pilot production schemes;

"discrete organic chemical" means any chemical belonging to a class of chemical compounds consisting of all compounds of carbon, except for its oxides, sulphides and metal carbides or carbonates, identifiable by chemical structure, by structural formula, if known, and by the Chemical Abstracts Service (CAS) registry number, if assigned, and not contained in the chemicals listed in

Annexures A, B or C to this Notice;

“riot control agent” means any toxic chemical, which is not among the toxic chemicals listed in Annexures A, B, C or D to this Notice, which can produce rapidly in humans sensory irritation or disabling physical effects, which disappear within a short time following the termination of exposure;

“manufacture”, in relation to a chemical, includes development and production;

“precursor” means any chemical reactant which takes part at any stage in the production by whatever method of a toxic chemical. This includes any key component of a binary or multicomponent chemical system;

“PSF discrete organic chemical” means any discrete organic chemical containing one or more of the elements phosphorus, sulphur or fluorine;

“purposes not prohibited under the Chemical Weapons Convention” means-

- (a) industrial, agricultural, research, medical, pharmaceutical or other peaceful purposes;
- (b) protective purposes, namely those purposes directly related to protection against toxic chemicals and to protection against chemical weapons;
- (c) military purposes not connected with the use of chemical weapons and not dependent on the use of the toxic properties of chemicals as a method of warfare; and
- (d) law enforcement including for domestic riot control purposes;

“services” includes freight forwarding, storing and stockpiling (if not part of the manufacture and transfer processes), transporting, maintaining (repairing, overhauling, refurbishing), trading, consulting, disposing, and technical assistance;

“toxic chemical” means any chemical which through its chemical action on life processes can cause death, temporary incapacitation or permanent harm to humans or animals. This includes all such chemicals, regardless of their origin or of their method of production, and regardless of whether they are produced in

facilities, in munitions or elsewhere;

"the Act" means the Non-Proliferation of Weapons of Mass Destruction Act, 1993 (Act No. 87 of 1993);

"transfer" means the change of ownership or custodianship or change in the location of controlled goods, whether or not they cross an international border; and

"use", in relation to a chemical, means the depletion of reserves by adding a chemical to formulations, as a constituent in a mixture, in a scrubber of unwanted chemicals, as a starting material in a process, as a component of a reaction or as a catalyst.

Declaration

2. I, Ebrahim Patel, Minister of Trade, Industry and Competition, under section 13(1) of the Non-Proliferation of Weapons of Mass Destruction Act, 1993 (Act No. 87 of 1993), and on the recommendation of the South African Council for the Non-Proliferation of Weapons of Mass Destruction (hereinafter referred to as "the Council"), hereby declare the goods listed in paragraph 4 of, and in the Annexures to, this Notice to be controlled goods.
3. I hereby—
 - (a) in terms of section 13(2)(a) and (e) of the Act and pursuant to South Africa's obligations under the Chemical Weapons Convention, further prohibit—
 - (i) the development, production, acquisition, stockpiling or retention of chemical weapons or the transfer, whether direct or indirect, of chemical weapons to any person;
 - (ii) the use of chemical weapons;
 - (iii) engagement in any military preparations to use chemical weapons;
 - (iv) the assistance, encouragement or induction, in any way, of any

person to engage in any activity prohibited under the Chemical Weapons Convention;

- (v) the use of riot control agents as a method of warfare; and
 - (vi) the export or re-export of the toxic chemicals or precursors listed in Annexures A and B, whether in substantially pure form or in a mixture with any other substance, to countries which are not States Parties to the Chemical Weapons Convention.
- (b) in terms of section 13(2)(b) of the Act, determine that the import, export, re-export or transit (including transshipment) of the controlled goods, as listed in Annexures A, B, C and E to this Notice, shall take place under a permit issued by the Council: A permit is not required for quantities of 5 milligrams or less of saxitoxin, if the transfer is made for medical or diagnostic purposes, in which case a notification to that effect shall be made to the Council before the transfer;
- (c) in terms of section 13(2)(b) of the Act, determine that the transit (including transshipment), export or re-export of the controlled goods, as listed in Annexures D and F to this Notice, shall take place under a permit issued by the Council;
- (d) in terms of section 13(2)(b) of the Act, determine that the internal (intranational) transfer of chemicals listed in Annexure A to this Notice, shall take place under a permit issued by the Council;
- (e) in terms of section 13(2)(c) of the Act, determine that the Council may require a State-to-State assurance or an end-user or end-use certificate for the export or re-export of the controlled goods listed in the Annexures to this Notice;
- (f) in terms of section 13(2)(c) of the Act, determine that the Council shall require an end-user or end-use certificate for the export or re-export of the controlled goods listed in Annexure C to this Notice, whether in substantially pure form or in a mixture with any other substance in a

concentration of greater than or equal to 30 per cent by weight, to countries which are not States Parties to the Chemical Weapons Convention;

- (g) in terms of section 13(2)(c) of the Act, determine that the Council shall require an end-user or end-use certificate for the export or re-export of the controlled goods listed in Annexure E to this Notice, whether in substantially pure form or in a mixture with any other substance, except in products identified as consumer goods packaged for retail sale for personal use or packaged for individual use;
- (h) in terms of section 13(2)(f) of the Act, determine that the manufacture of, and provision of services with respect to, controlled goods listed in Annexure A to this Notice shall take place under a permit issued by the Council; and
- (i) in terms of section 13(3)(b) of the Act determine that the Council should, not less than 60 days before the transfer of controlled goods listed in Annexure A to or from another State Party, be notified of the transfer.

Controlled goods

4. The following goods are controlled goods at the control thresholds indicated in paragraph 5 of this Notice:
 - (a) The toxic chemicals and precursors listed in Annexures A, B and C, which may be used for purposes that are not prohibited as indicated in paragraph 9 of Article II of the Chemical Weapons Convention: Provided that the types and quantities are consistent with such purposes, whether in substantially pure form or in a mixture. Whenever, in Annexures A and B, reference to groups of dialkylated chemicals is followed by a list of alkyl groups in parentheses, all chemicals possible by all possible combinations of alkyl groups listed in the parentheses are considered to be controlled goods, except those explicitly exempted in Annexure B;
 - (b) the toxic chemicals listed in Annexure D, whether in substantially pure form or in a mixture;

- (c) the riot control agents listed in Annexure E, whether in substantially pure form or in a mixture, except—
 - (i) goods containing capsaicin packaged for retail sale for personal use or packaged for individual use; and
 - (ii) goods containing riot control agents packaged for food production or medical purposes;
- (d) the antiplant agents listed in Annexure F, whether in substantially pure form or in a mixture;
- (e) any chemical facility that produces, acquires, consumes or stores any quantity of the toxic chemicals and precursors listed in Annexure A. As indicated in paragraph 8 of Part VI of the Verification Annex of the Chemical Weapons Convention, the production of the toxic chemicals and precursors listed in Annexure A shall only be carried out at a single small-scale facility. The toxic chemicals and precursors shall only be applied for research, medical, pharmaceutical or protective purposes, and the aggregate amount of such chemicals for such purposes at any given time should be less than or equal to one metric tonne;
- (f) any chemical facility that produced, processed or consumed during the previous calendar year or anticipates to produce, process or consume in the next calendar year 10 grams or more of the toxic chemical BZ listed in Annexure B, one kilogram or more of the toxic chemicals Amiton or PFIB listed in Annexure B or 10 kilograms or more of any precursor listed in Annexure B;
- (g) any chemical facility that produced during the previous calendar year or anticipates to produce in the next calendar year 100 kilograms or more of any toxic chemical listed in Annexure C;
- (h) any chemical facility that produced by chemical synthesis, an aggregate quantity of 100 metric tonnes or more of any number of discrete organic chemicals or their salts, or an aggregate quantity of 15 metric tonnes or

more of any single PSF discrete organic chemical or its salts, during the previous calendar year. For the purposes of this paragraph, polymeric and oligomeric substances are not regarded as discrete organic chemicals. For the purposes of this paragraph, chemical facilities that—

- (i) produce explosives or hydrocarbons exclusively, are exempted;
 - (ii) produce polymeric and oligomeric substances exclusively, are exempted;
 - (iii) produce any discrete organic chemicals or PSF discrete organic chemicals, as well as hydrocarbons, explosives or polymeric and oligomeric substances, are not exempted; or
 - (iv) process chemicals or blend or formulate chemicals into products such as insecticides, paints or detergents, where no chemical reactions take place, are exempted;
- (i) the technology required for the production of the controlled goods listed in Annexure A and the toxic chemicals listed in Annexure B; and
- (j) the manufacturing of, and provision of services with respect to controlled goods listed in Annexure A.

Control thresholds

5. (1) The control thresholds of controlled goods for the purposes of declarations shall be as follows:
- (a) all quantities of the toxic chemicals and precursors listed in Annexure A, whether in substantially pure form or in a mixture with any other substance;
 - (b) an aggregate quantity per calendar year of—
 - (i) the toxic chemical BZ listed in Annexure B greater than or

equal to 10 grams, whether in substantially pure form or in a mixture with any other substance in a concentration greater than or equal to one per cent by weight;

- (ii) the toxic chemicals Amiton and PFIB listed in Annexure B greater than or equal to one kilogram, whether in substantially pure form or in a mixture with any other substance in a concentration greater than or equal to one per cent by weight; or
 - (iii) the precursors listed in Annexure B greater than or equal to 10 kilograms, whether in substantially pure form or in a mixture with any other substance in a concentration greater than or equal to 30 per cent by weight;
- (c) an aggregate quantity per calendar year of the toxic chemicals and precursors listed in Annexure C greater than or equal to 100 kilograms, whether in substantially pure form or in a mixture with any other substance in a concentration greater than or equal to 30 per cent by weight;
 - (d) an aggregate quantity per calendar year of all discrete organic chemicals or their salts produced within a chemical plant site greater than or equal to 100 metric tonnes in substantially pure form;
 - (e) an aggregate quantity per calendar year of all PSF discrete organic chemicals or their salts produced within a chemical facility greater than or equal to 15 metric tonnes in substantially pure form;
 - (f) an aggregate quantity per calendar year of the toxic chemicals listed in Annexure D greater than or equal to one metric tonne, whether in substantially pure form or in a mixture with any other substance in a concentration greater than or equal to 30 per cent by weight;
 - (g) an aggregate quantity per calendar year of the riot control agents listed in Annexure E greater than or equal to 100 kilograms, whether

in substantially pure form or in a mixture with any other substance, except in products identified as consumer goods packaged for retail sale for personal use or packaged for individual use; and

- (h) any quantity per calendar year of the antiplant agents listed in Annexure F, whether in substantially pure form or in a mixture with any other substance.
- (2) For the purposes of subparagraphs (1)(a), (b) and (c), all threshold quantities shall include quantities of controlled chemicals generated as by-products or as components of waste or effluent streams in a chemical production process.
- (3) The control thresholds of controlled goods for the purposes of transfers shall be as follows:
- (a) All quantities of the toxic chemicals and precursors listed in Annexure A, whether in substantially pure form or in a mixture with any other substance; and
 - (b) All quantities of toxic chemicals and precursors listed in Annexure B.

Note:

- (i) The toxic chemical BZ listed in Annexure B whether in substantially pure form or in a mixture with any other substance in a concentration greater than or equal to one per cent by weight;
- (ii) The toxic chemicals Amiton and PFIB listed in Annexure B whether in substantially pure form or in a mixture with any other substance in a concentration greater than or equal to one per cent by weight; or
- (iii) The precursors listed in Annexure B whether in substantially pure form or in a mixture with any other substance in a

concentration greater than or equal to 30 per cent by weight;

- (c) an aggregate quantity of the toxic chemicals and precursors listed in Annexure C greater than or equal to 25 kilograms, whether in substantially pure form or in a mixture with any other substance in a concentration greater than or equal to 30 per cent by weight;
 - (d) an aggregate quantity of the toxic chemicals listed in Annexure D greater than or equal to 100 kilograms, whether in substantially pure form or in a mixture with any other substance in a concentration greater than or equal to 30 per cent by weight;
 - (e) any quantity of the riot control agents listed in Annexure E, whether in substantially pure form or in a mixture with any other substance, except in products identified as consumer goods packaged for retail sale for personal use or packaged for individual use; and
 - (f) any quantity of the antiplant agents listed in Annexure F, whether in substantially pure form or in a mixture with any other substance.
- (4) Products containing chemicals listed in Annexure B may be exported to countries that are not States Parties to the Chemical Weapons Convention: Provided that the said products contain—
- (a) one per cent or less of the toxic chemicals listed in Annexure B; or
 - (b) 10 per cent or less of the precursors listed in Annexure B; and
- are identified as consumer goods packaged for retail sale for personal use or packaged for individual use.
- (5) Products containing chemicals listed in Annexure C may be exported without a permit to countries that are not States Parties to the Chemical Weapons Convention: Provided that the said products contain less than 30 per cent of a chemical listed in Annexure C and are identified as consumer goods packaged for retail sale for personal use or packaged for individual

use.

Application forms

6. Application forms for permits contemplated in paragraph 3 of this Notice may be obtained from any of the following addresses:

- (a) Postal address:

The Secretariat

South African Council for the Non-Proliferation of Weapons of Mass
Destruction

Private Bag X84

PRETORIA

0001; or

- (b) Physical address:

The Secretariat

South African Council for the Non-Proliferation of Weapons of Mass
Destruction

77 Meintjies Street

Sunnyside

PRETORIA or

- (c) The website of the South African Council for the Non-Proliferation of
Weapons of Mass Destruction at <http://non-proliferation.thedtic.gov.za/>.

Repeal

7. Government Notice No. 495 of 29 March 2019 in Government Gazette No. 42337 is hereby repealed.



Ebrahim Patel
Minister of Trade, Industry and Competition

ANNEXURE A

Schedule 1 of the Chemical Weapons Convention(Chemical Abstracts Service
Registry Number)**A. Toxic Chemicals:**

(1) O-Alkyl (<C10, incl. cycloalkyl) alkyl

(Me, Et, n-Pr or i-Pr)-phosphonofluoridates

e.g. Sarin: O-Isopropyl methylphosphonofluoridate (107-44-8)

Soman: O-Pinacolyl methylphosphonofluoridate (96-64-0)

(2) O-Alkyl (<C10, incl. cycloalkyl) N,N-dialkyl

(Me, Et, n-Pr or i-Pr) phosphoramidocyanidates

e.g. Tabun: O-Ethyl N,N-dimethyl
phosphoramidocyanidate (77-81-6)

(3) O-Alkyl (H or <C10, incl. cycloalkyl) S-2-dialkyl

(Me, Et, n-Pr or i-Pr)-aminoethyl alkyl

(Me, Et, n-Pr or i-Pr) phosphonothiolates and
corresponding alkylated or protonated saltse.g. VX: O-Ethyl S-2-diisopropylaminoethyl
methyl phosphonothiolate (50782-69-9)

(4) Sulfur mustards:

2-Chloroethylchloromethylsulfide (2625-76-5)

Mustard gas: Bis(2-chloroethyl)sulfide (505-60-2)

Bis(2-chloroethylthio)methane (63869-13-6)

Sesquimustard: 1,2-Bis(2-chloroethylthio)ethane (3563-36-8)

1,3-Bis(2-chloroethylthio)-n-propane (63905-10-2)

1,4-Bis(2-chloroethylthio)-n-butane (142868-93-7)

1,5-Bis(2-chloroethylthio)-n-pentane (142868-94-8)

Bis(2-chloroethylthiomethyl)ether (63918-90-1)

- O-Mustard: Bis(2-chloroethylthioethyl)ether (63918-89-8)
- (5) Lewisites:
- Lewisite 1: 2-Chlorovinylchloroarsine (541-25-3)
- Lewisite 2: Bis(2-chlorovinyl)chloroarsine (40334-69-8)
- Lewisite 3: Tris(2-chlorovinyl)arsine (40334-70-1)
- (6) Nitrogen mustards:
- HN1: Bis(2-chloroethyl)ethylamine (538-07-8)
- HN2: Bis(2-chloroethyl)methylamine (51-75-2)
- HN3: Tris(2-chloroethyl)amine (555-77-1)
- (7) Saxitoxin (35523-89-8)
- (8) Ricin (9009-86-3)
- (13) P-alkyl (H or $\leq C_{10}$, incl. cycloalkyl) N-(1-(dialkyl($\leq C_{10}$, incl. cycloalkyl)amino))alkylidene(H or $\leq C_{10}$, incl. cycloalkyl) phosphonamidic fluorides and corresponding alkylated or protonated salts
- e.g. N-(1-(di-n-decylamino)-n-decylidene)-P-decylphosphonamidic fluoride (2387495-99-8)
- Methyl-(1-(diethylamino)ethylidene)phosphonamidofluoride (2387496-12-8)
- (14) O-alkyl (H or $\leq C_{10}$, incl. cycloalkyl) N-(1-(dialkyl($\leq C_{10}$, incl. cycloalkyl)amino))alkylidene(H or $\leq C_{10}$, incl. cycloalkyl) phosphoramidofluorides and corresponding alkylated or protonated salts
- e.g. O-n-Decyl N-(1-(di-n-decylamino)-n-decylidene)phosphoramidofluoride (2387496-00-4)
- Methyl (1-(diethylamino)ethylidene)phosphoramidofluoride (2387496-04-8)
- Ethyl (1-(diethylamino)ethylidene)phosphoramidofluoride (2387496-06-0)
- (15) Methyl-(bis(diethylamino)methylene)phosphonamidofluoride (2387496-14-0)
- (16) Carbamates (quaternaries and bisquaternaries of

dimethylcarbamoyloxypyridines) Quaternaries of
dimethylcarbamoyloxypyridines:

1-[N,N-dialkyl($\leq C_{10}$)-N-(n-(hydroxyl, cyano, acetoxy)alkyl($\leq C_{10}$)) ammonio]-n-
[N- (3-dimethylcarbamoxy- α -picoliny)]-N,N-dialkyl($\leq C_{10}$) ammonio]decane
dibromide (n=1-8)

e.g. 1-[N,N-dimethyl-N-(2-hydroxy)ethylammonio]-10-[N-(3-
dimethylcarbamoxy- α - picoliny)]-N,N-dimethylammonio]decane dibromide
(77104-62-2)

Bisquaternaries of dimethylcarbamoyloxypyridines: 1,n-Bis[N-(3-
dimethylcarbamoxy- α -picolyl)-N,N-dialkyl($\leq C_{10}$) ammonio]- alkane-
(2,(n-1)-dione) dibromide (n=2-12)

e.g. 1,10-Bis[N-(3-dimethylcarbamoxy- α -picolyl)-N-ethyl-N-
methylammonio]decane- 2,9-dione dibromide (77104-00-8)

B. Precursors:

(9) Alkyl (Me, Et, n-Pr or i-Pr) phosphonyldifluorides

e.g. DF: Methylphosphonyldifluoride (676-99-3)

(10) O-Alkyl (H or $< C_{10}$, incl. cycloalkyl) O-2-dialkyl

(Me, Et, n-Pr or i-Pr)-aminoethyl alkyl
(Me, Et, n-Pr or i-Pr) phosphonites and
corresponding alkylated or protonated salts

e.g. QL: O-Ethyl O-2-diisopropylaminoethyl
methylphosphonite (57856-11-8)

(11) Chlorosarin: O-Isopropyl methylphosphonochloridate (1445-76-7)

(12) Chlorosoman: O-Pinacolyl methylphosphonochloridate (7040-57-5)

ANNEXURE B**Schedule 2 of the Chemical Weapons Convention**(Chemical Abstracts Service
Registry Number)**A. Toxic chemicals:**

- (1) Amiton:
O,O-Diethyl S-[2-(diethylamino) ethyl] phosphorothiolate
and corresponding alkylated or protonated salts (78-53-5)
- (2) PFIB:
1,1,3,3,3-Pentafluoro-2-(trifluoromethyl)-1-propene (382-21-8)
- (3) BZ:
3-Quinuclidinyl benzilate (6581-06-2)

B. Precursors:

- (1) Chemicals, except for those listed in Schedule 1,
containing a phosphorus atom to which is bonded
one methyl, ethyl or propyl (normal or iso) group
but not further carbon atoms, such as

Methylphosphonyl dichloride	(676-97-1)
Dimethyl methylphosphonate	(756-79-6)
Diethyl ethylphosphonate	(78-38-6)
Ethylphosphinyl dichloride	(1498-40-4)
Ethylphosphonyl dichloride	(1066-50-8)
Methylphosphinyl dichloride	(676-83-5)
Ethylphosphinyl difluoride	(430-78-4)
Methylphosphinyl difluoride	(753-59-3)
Methylphosphonic acid	(993-13-5)

Methylphosphonothioic dichloride	(676-98-2)
Diethyl methylphosphonite	(15715-41-0)
Dimethyl ethylphosphonate	(6163-75-3)

Exemption:

Fonofos:

O-Ethyl S-phenyl ethylphosphonothiolothionate	(944-22-9)
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- (2) N,N-Dialkyl (Methyl, Ethyl, n-Propyl or Isopropyl) phosphoramidic dihalides

- (3) Dialkyl (Methyl, Ethyl, n-Propyl or Isopropyl N,N-dialkyl (Methyl, Ethyl, n-Propyl or Isopropyl)-phosphoramidates, such as

Diethyl N,N-dimethylphosphoramidate	(2404-03-7)
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- (4) Arsenic trichloride (7784-34-1)

- (5) 2,2-Diphenyl-2-hydroxyacetic acid (Benzilic acid) (76-93-7)

- (6) Quinuclidin-3-ol (1619-34-7)

- (10) N,N-Dialkyl (Methyl, Ethyl, n-Propyl or Isopropyl) aminoethyl-2-chlorides and corresponding protonated salts, such as

N,N-Diisopropyl-(beta)-aminoethyl chloride	(96-79-7)
N,N-Diisopropyl-2-aminoethyl chloride hydrochloride	(4261-68-1)
N,N-Dimethylaminophosphoryl dichloride	(676-98-2)

- (11) N,N-Dialkyl (Methyl, Ethyl, n-Propyl or Isopropyl) aminoethane-2-ols and corresponding protonated salts, such as

N,N-Diisopropyl-(beta)-aminoethanol	(96-80-0)
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Exemptions:

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|------|---|-------------|
| | N,N-Dimethylaminoethanol | (108-01-0) |
| | and corresponding protonated salts | |
| | Protonated salts of N,N-Diethylaminoethanol | (100-37-8) |
| (12) | N,N-Dialkyl (Methyl, Ethyl, n-Propyl or Isopropyl)
aminoethane-2-thiols and corresponding
protonated salts, such as | |
| | N,N-Diisopropyl-(beta)-aminoethane thiol | (5842-07-9) |
| (13) | Thiodiglycol:
Bis (2-hydroxyethyl) sulphide | (111-48-8) |
| (14) | Pinacolyl alcohol:
3,3-Dimethylbutan-2-ol | (464-07-3) |

ANNEXURE C**Schedule 3 of the Chemical Weapons Convention**

(Chemical Abstracts Service
Registry Number)

A. Toxic chemicals:

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|-----|-------------------------------------|------------|
| (1) | Phosgene: Carbonyl dichloride | (75-44-5) |
| (2) | Cyanogen chloride | (506-77-4) |
| (3) | Hydrogen cyanide | (74-90-8) |
| (4) | Chloropicrin: Trichloronitromethane | (76-06-2) |

B. Precursors:

- | | | |
|------|--------------------------|--------------|
| (5) | Phosphorus oxychloride | (10025-87-3) |
| (6) | Phosphorus trichloride | (7719-12-2) |
| (7) | Phosphorus pentachloride | (10026-13-8) |
| (8) | Trimethyl phosphite | (121-45-9) |
| (9) | Triethyl phosphite | (122-52-1) |
| (10) | Dimethyl phosphite | (868-85-9) |
| (11) | Diethyl phosphite | (762-04-9) |
| (12) | Sulphur monochloride | (10025-67-9) |
| (13) | Sulphur dichloride | (10545-99-0) |

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|------|----------------------|-------------|
| (14) | Thionyl chloride | (7719-09-7) |
| (15) | Ethyldiethanolamine | (139-87-7) |
| (16) | Methyldiethanolamine | (105-59-9) |
| (17) | Triethanolamine | (102-71-6) |

ANNEXURE D

(Chemical Abstracts Service
Registry Number)

Toxic chemicals:

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|------|------------------------------|-------------|
| (1) | 3-Hydroxy-1-methylpiperidine | (3554-74-3) |
| (2) | Potassium fluoride | (7789-23-3) |
| (3) | 2-Chloroethanol | (107-07-3) |
| (4) | Dimethylamine | (124-40-3) |
| (5) | Dimethylamine hydrochloride | (506-59-2) |
| (6) | Hydrogen fluoride | (7664-39-3) |
| (7) | Methyl benzilate | (76-89-1) |
| (8) | 3-Quinuclidone | (3731-38-2) |
| (9) | Pinacolone | (75-97-8) |
| (10) | Potassium cyanide | (151-50-8) |
| (11) | Potassium bifluoride | (7789-29-9) |
| (12) | Ammonium bifluoride | (1341-49-7) |
| (13) | Sodium bifluoride | (1333-83-1) |
| (14) | Sodium fluoride | (7681-49-4) |
| (15) | Sodium cyanide | (143-33-9) |

(16)	Phosphorus pentasulphide	(1314-80-3)
(17)	Di-isopropylamine	(108-18-9)
(18)	Diethylaminoethanol	(100-37-8)
(19)	Sodium sulphide	(1313-82-2)
(20)	Triethanolamine hydrochloride	(637-39-8)
(21)	Triisopropyl phosphite	(116-17-6)
(22)	O,O-Diethyl phosphorothioate	(2465-65-8)
(23)	O,O-Diethyl phosphorodithioate	(298-06-6)
(24)	Sodium hexafluorosilicate	(16893-85-9)

ANNEXURE E

(Chemical Abstracts Service
Registry Number)

Riot Control Agents

Riot control agents as follows:

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|------|--|-------------|
| (1) | α -Bromobenzeneacetonitrile,
(Bromobenzyl cyanide), (CA) | (5798-79-8) |
| (2) | 2-Chloro-1-phenyl-ethanone, (Phenylacetyl chloride),
(ω -chloroacetophenone), (CN) | (532-27-4) |
| (3) | [(2-chlorophenyl)-methylene] propanedinitrile,
(o-Chlorobenzylidenemalonitrile), (CS) | (2698-41-1) |
| (4) | Dibenz (b,f)-1,4-oxazepine, (CR) | (257-07-8) |
| (5) | Diphenylaminochloroarsine, (10-Chloro-5,10-dihydrophen-
arsazine), (Phenarsazine chloride), (Adamsite), (DM) | (578-94-9) |
| (6) | N-nonanylmorpholine, (MPA) | (5299-64-9) |
| (7) | trans-8-Methyl-N-vanillyl-6-nonenamide, (Capsaicin), (Pepper
Spray), [N-(4-hydroxy-3-methoxy benzyl)-8-methyl-non-trans-6-enamide], | (404-86-4) |
| (8) | Ethyl bromoacetate, (EBA) | (105-36-2) |
| (9) | Pelargonic acid vanillylamide | (2444-46-4) |
| (10) | Phenyl chloride | (108-90-7) |

- (11) Mixture of OC and CS
- (12) Oleoresin capsicum (OC) (8023-77-6)
- (13) 8-Methyl-N-vanillynonamide
(dihydrocapsaicin) (19408-84-5)
- (14) N-Vanillyl-9-methyldec-7-(E)-enamide
(homocapsaicin) (58493-48-4)
- (15) N-Vanillyl-9-methyldecanamide
(homodihydrocapsaicin) (20279-06-5)
- (16) N-Vanillyl-7-methyloctanamide
(nordihydrocapsaicin) (28789-35-7)
- (17) 2'-Chloroacetophenone (2142-68-9)
- (18) 3'-Chloroacetophenone (99-02-5)
- (19) α -Chlorobenzylidenemalononitrile (18270-61-6)
- (20) Cis-4-acetylamino-dicyclohexylmethane (37794-87-9)
- (21) N,N'-Bis (isopropyl) ethylenediimine (E,E 28227-41-0; Z,Z 185245-09-4)
- (22) N,N'-Bis (tert-butyl) ethylenediimine (30834-74-3; E,E 28227-42-1)

ANNEXURE F

(Chemical Abstracts Service
Registry Number)

Anti-plant agents:

Anti-plant agents as follows:

- | | | |
|-----|---|-------------|
| (1) | Butyl 2-chloro-4-fluorophenoxyacetate (LNF) | (1692-85-9) |
| (2) | Mixtures of 2,4,5-T and 2,4-D where: | |
| | 2,4,5-T: 2,4,5-Trichlorophenoxyacetic acid | (93-76-5) |
| | 2,4-D: 2,4-Dichlorophenoxyacetic acid | (94-75-7) |
| (3) | Mixtures of Picloram where: | |
| | Picloram: 4-Amino-3,5,6-trichloropicolinic acid | (1918-02-1) |
| (4) | Dimethylarsinic acid (Cacodylic acid) | (75-60-5) |

NĀDIVHADZO YA MUVHUSO**MUHASHO WA ZWA MAKWEVHO, NĀDOWETSHUMO NA MUṬAṬISANO****MULAYO: NON-PROLIFERATION OF WEAPONS OF MASS DESTRUCTION ACT,
1993 (ACT NO. 87 OF 1993)****U DĀIVHADZWA HA DZENEDZO THUNDU DZA KHEMIKHAḶA SA THUNDU
DZINE DZA LANGWA NA MAGA A U LANGA O FANELAHO KHA IDZO THUNDU****Ṭhalutshedzo**

1. Kha ino nĀdivhadzo ipfi Ḷiṇwe na Ḷiṇwe kana kuambebe kuṇwe na kuṇwe kune ṭhalutshedzo ya hone ndi ine ya amba zwi re kha Mulayo wa Non-Proliferation of Weapons of Mass Destruction Act, 1993 (Act No. 87 of 1993), kana Thendelano ya Zwihali zwa KhemikhaḶa, sa zwine nyimele ya nga vha zwone, ku tea u vha na ṭhalutshedzo yeneyo ye ya avhelwa, nga nndā ha musī nyimele i tshi sumbedza nga iṇwe nĀdila—

"mushonga wa u vhulaya zwimela" zwi amba khemikhaḶa kana mushonga muṇwe na muṇwe u re kha mutevhe wa Ṭhumetshedzo ya F kha ino NĀdivhadzo, une wa kona u fhulula kana u wisa maṭari a zwimela kana u tshinyadza zwiliṇwa kana zwimela kana une wa kona u kunisa mavu u itela u thivhela nyaluwo ya zwimelamela;

"Thendelano ya Zwihali zwa KhemikhaḶa" zwi amba Thendelano nga ha Nyiledzo ya Mveledziso, Vhubveledzi, u Kuvhanganya na u Shumiswa ha Zwihali

zwa Khemikha_{la} na Tshinyadzo;

"mveledziso" zwi amba maga o_{the} a phan_{da} ha vhubveledzi, nahone hu katelwa mihumbulovhumbwa, tho_{disiso}, tsaukanyo, ndingo, nzudzanyo kana zwikimu zwa vhubveledzi zwa u linga;

"khemikha_{la} ya oganiki i re thungo" zwi amba khemikha_{la} i_{nwe} na i_{nwe} ine ya wela kha ki_{lasi} ya khemikha_{la} dzi re na kana dzo vhumbwaho nga khaboni, nga n_{da} ha dziokisaidi, dzisa_{lifaidi} na khabaidi dza metha_{la} kana dzikhanethi, dzi d_{ivheaho} kha tshivhumbeo tsha khemikha_{la}, nga fomu_{la} ya tshivhumbeo, arali zwi tshi d_{ivhea}, nahone nga nomboro ya redzhisi_{tara} ya tshumelo ya Chemical Abstracts Service (CAS), arali iyo nomboro you itwa, nahone i siho kha dzikhemikha_{la} dzi re kha mutevhe wa Thumetshedzo dza A, B kana C kha ino N_{divhadzo};

"khemikha_{la} ya u langa mufhirifhiri" zwi amba khemikha_{la} i_{nwe} na i_{nwe} i re mulimo, ine a i ho kha dzikhemikha_{la} dza mulimo dzi re kha mutevhe wa Dzi_{thumetshedzo} dza A, B, C kana D kha ino N_{divhadzo}, ine ya kona u bveledza nzikusazwipfi zwa vhatu kana wa ita uri muvhili wa sa kone u ita tshithu, zwine izwi zwa fhela nga u t_{avhanya} nga murahu ha musu muthu a songo tsha t_{anea} kha iyo khemikha_{la};

"u maga", malugana na zwa khemikha_{la}, hu katelwa mveledziso na vhubveledzi;

"thukhitamutheo" zwi amba thukhita ya khemikha_{la} i_{nwe} na i_{nwe} ine ya kwamea kha li_{ga} li_{nwe} na li_{nwe} la vhubveledzi nga n_{dila} ifhio na ifhio ya

khemikha_{la} i re mulimo. Izwi zwi katela tshipi_{da} tshi_{in}we na tshi_{in}we tsha sisit_eme ya mbili kana sisit_eme ya khemikha_{la} ya zwipi_{da} zwinzhi;

"khemikha_{la} ya oganiki i re thungo ya PSF" zwi amba khemikha_{la} ya oganiki i re thungo ifhio na ifhio ine ya vha na tshi_{tal}uli tshithihi kana zwi_{tal}uli zwinzhi zwa phosphorus, sulphur kana fluorine;

"ndivho dzine a dzo ngo ledzwa nga fhasi ha Thendelano ya Zwihali zwa Khemikha_{la}" zwi amba-

- (a) zwa n_qowetshumo, vhulimivhufuwi, t_ho_qisiso, dzilafho, famasi kana dzi_{in}we ndivho dza mulalo;
- (b) zwa ndivho dza u tsireledza, idzo ndivho dzi kwamana thwli na u tsireledza malugana na dzikhemikha_{la} dzi re mulimo na u tsireledza kha zwi kwamaho zwihali zwa dzikhemikha_{la};
- (c) zwa ndivho dza vhuswoleni dzi sa t_umaniho na u shumiswa ha zwihali zwa khemikha_{la} nahone zwi songo sendekaho kha u shumiswa ha zwithu zwi re mulimo zwa dzikhemikha_{la} sa n_qila ya nndwa; na
- (d) zwa vhutevhedzisamulayo hu tshi katelwa ndivho dza u langa mufhirifhiri fhano hayani;

"tshumelo" hu katelwa u rumela, u vhulunga na u t_hopha tshi_{to}ko tsha thundu kana muhwalo (arali hu si tshipi_{da} tsha maitete a vhumagi na phiriso), u endedza, u t_hogomela (u lugisa, u ovarola, u vusuludza), vhukwevho, u kwamana, u la_{ta}, na thusedzo ya thekhenikha_{la};

"khemikha_{la} i re mulimo" zwi amba khemikha_{la} i_nwe na i_nwe ine nga kha nyito yayo saizwi i khemikha_{la}, kha vhutshilo i ita uri hu vhangee lufu, u sa tsha

kona tshithu lwa tshifhinyana kana u huvhala lwa tshothe kha vathu kana zwipuka. Izwi zwi katela dzothe idzo khemikha, hu songo sedzwa vhubvo hadzo kana ndila yadzo ya u bveledzwa, nahone hu songo sedzwa uri dzi bveledzwa zwiimisiwani, zwithavhaneni kana huwe fhetu;

"Mulayo" zwi amba Non-Proliferation of Weapons of Mass Destruction Act, 1993 (Act No. 87 of 1993);

"phiriso" zwi amba tshandukiso ya vhuhe kana ya mudzulanatshithu kana u shandukisa fhetu ha ndango ya thundu, hu nga vha ho vha na u pfuka mukano kana u sa pfuka mukano wa dzitshakatshaka; na

"u shumisa", zwi tshi yelana na khemikha, zwi amba u fhungudza kana u fhedza zwo gadzwaho nga u engedza khemikha kha zwi vhumbwaho, sa tshifhwa kha muvango, kha tshikunakisi tsha khemikha dzi sa todei, sa matheria a u vula tswinga kha kuitele, sa tshipiqa tsha nyitophindulo kana tshivhanguli.

U divhadza

2. Nhe, Ebrahim Patel, Minista wa zwa Makwevho, Ndowetshumo na Mutatisano, nga fhasi ha khethekanyo ya 13(1) ya Mulayo wa Non-Proliferation of Weapons of Mass Destruction Act, 1993 (Act No. 87 of 1993), nahone nga themendelo dza Khoro ya South African Council for the Non-Proliferation of Weapons of Mass Destruction (afha i tshi khou vhidzwa upfi "Khoro"), ndi khou divhadza uri thundu dzi re kha mutevhe wa pharagirafu ya 4 ya, na kha Dzihumetshedzo dza ino Ndivhadzo, dzi vhe thundu dzi langwaho.
3. Nhe—

- (a) u ya nga khethekanyo ya 13(2)(a) na (e) ya Mulayo nahone ndi tshi khou tevhedzela u vhoxwa ha Afrika Tshipembe nga fhasi ha Thendelano ya Zwihali zwa Khemikha|a, ndi iledza—
- (i) mveledziso, vhubveledzi, u vhuvelwa, u ṭhopḥa tsḥiṭoko kana u faredzwa ha zwihali zwa khemikha|a kana phiriso, hu nga vha nga ṇḍila yo livhaho kana i songo livhaho, ya zwihali zwa khemikha|a kha muthu uf̣hio na uf̣hio;
 - (ii) u shumiswa ha zwihali zwa khemikha|a;
 - (iii) u dzhenela kha zwiñwe na zwiñwe zwi kwamaho ndugiselo dza zwa vhuswole hu tshi itelwa u shumisa zwihali zwa khemikha|a;
 - (iv) u thusedza, u ṭụṭuwedza kana u fuṇdedzela, nga ṇḍila iñwe na iñwe, kha muthu muñwe na muñwe uri a dzhenele zwiito zwo iledzwaho nga fhasi ha Thendelano ya Zwihali zwa Khemikha|a;
 - (v) u shumisa dzikhemikha|a dza u langa mifḥirifḥiri sa ṇḍila ya u lwa; na
 - (vi) u rengisela mashangoḍavha kana thengiselamashangoḍavha-hafhu ya dzikhemikha|a dzi re mulimo kana thukhitamutheo dzi re kha mutevhe wa Dzịṭhumetshedzo dza A na B, hu nga vha dzi kha tshivhumbeokuna kana dzi kha muvango na thukhita iñwe na iñwe, kha mashango ane ha Tshipiḍa tsha Thendelano ya Zwihali zwa

Khemikha|a.

- (b) u ya nga khethekanyo ya 13(2)(b) ya Mulayo, ndi qdivhadza uri u renga mashangoqavha, u rengisela mashangoqavha, u rengisela mashangoqavha-hafhu kana u fhirisa (hu tshi katela u endedza) thundu dzi langwaho, sa idzo dzi re kha mutevhe wa Dziqhumetshedzo dza A, B, C na E kha ino Nqdivhadzo, zwi tea u itwa nga fhasi ha thendelo yo qetshedzwaho nga Khoru: A hu toqei thendelo kha tshivhalo tsha dzimilqigireme dza 5 kana zwiquku kha saxitoxin, arali phiriso i tshi khou itwa ndivho dzi dza zwa dzilafho kana u qhaqhuvha, hune kha iyo nyimele nqdivhadzo ya izwo i qo itwa kha Khoru phanqa ha musu hu tshi itwa iyo phiriso;
- (c) u ya nga khethekanyo ya 13(2)(b) ya Mulayo, ndi khou qdivhadza uri nyendedzo (hu tshi katelwa u endedza), u rengisela mashangoqavha kana u rengisela mashangoqavha-hafhu ha thundu dzi langwaho, sa zwi re kha mutevhe wa Dziqhumetshedzo dza D na F kha ino Nqdivhadzo, zwi tea u itwa nga fhasi ha thendelo yo qetshedzwaho nga Khoru;
- (d) U ya nga khethekanyo ya 13(2)(b) ya Mulayo, ndi khou qdivhadza uri phiriso ya ngomu (ngomu kha lushaka) ya dzikhemikha|a dzi re kha mutevhe wa qhumetshedzo ya A kha ino nqdivhadzo, zwi tea u itwa nga fhasi ha thendelo yo qetshedzwaho nga Khoru;
- (e) u ya nga khethekanyo ya 13(2)(c) ya Mulayo, ndi khou qdivhadza uri Khoru

i nga toḁa khwaṯhisedzo ya vhukati ha mashango (u bva kha Shango u ya kha iṯwe Shango) kana ṯhanziela ya mushumisi kana tshumiso kha zwa u rengisela mashangoḁavha kana u rengisela mashangoḁavha-hafhu ha thundu dzi langwaho kha mutevhe wa Dziṯhumetshedzo kha ino Nḁivhadzo;

(f) u ya nga khethekanyo ya 13(2)(c) ya Mulayo, ndi khou ḁivhadza uri Khoru i tea u toḁa ṯhanziela ya mushumisi kana tshumiso kha u rengisela mashangoḁavha kana u rengisela mashangoḁavha-hafhu ha thundu dzi langwaho dzi re kha mutevhe kha ṯhumetshedzo ya C kha ino Nḁivhadzo, hu nga vha dzi kha tshivhumbeokuna kana muvanganyo na thukhita iṯwe na iṯwe ine kuḁalale kwa hone a ku fhiri kana ku tou lingana na phesenthe dza 30 nga tshileme kha mashango ane ha Tshipiḁa kha Thendelano ya Zwihali zwa Khemikhaḁa;

(g) u ya nga khethekanyo ya 13(2)(c) ya Mulayo, ndi khou ḁivhadza uri Khoru i tea u toḁa ṯhanziela ya mushumisi kana ya tshumiso kha zwa u rengisela mashangoḁavha kana u rengisela mashangoḁavha hafhu ha thundu dzi langwaho dzi re kha mutevhe wa ṯhumetshedzo ya E kha ino Nḁivhadzo, hu nga vha dzi kha tshivhumbeokuna kana tsho vanganywaho na thukhita iṯwe na iṯwe, nga nnḁa ha zwibveledzwa zwi ḁivheaho sa zwibveledzwa zwa vharengi zwo dzudzanyelwaho u rengiswa uri zwi shumiswe nga muthu ene muḁe;

(h) u ya nga khethekanyo ya 13(2)(f) ya Mulayo, ndi khou ḁivhadza uri u

magwa ha, na u *netshedzwa* ha tshumelo malugana na thundu dzi langwaho dzi re kha mutevhe wa *Thumetshedzo* ya A kha ino *Ndivhadzo* zwi tea u itwa nga fhasi ha thendelo yo *netshedzwaho* nga Khoru; na

- (i) u ya nga khethekanyo ya 13(3)(b) ya Mulayo ndi khou *divhadza* uri Khoru i fanela u *divhadzwa* nga uho u fhirisa, nga *maɖuvha* a siho fhasi ha 60 phandā ha musi hu tshi fhiriswa thundu dzi langwaho dzi re kha mutevhe wa *Thumetshedzo* ya A dzi tshi ya kana u bva kha *liñwe* Shangoi *li* re Muraɖo kana Tshipiɖa.

Thundu dzi langwaho

4. Thundu dzi tevhelaho ndi thundu dzi langwaho kha ndango ya phungudzelo dzo sumbedzwaho kha pharagirafu ya 5 ya ino *Ndivhadzo*:

- (a) Khemikhaɭa dzi re mulimo na dzithukhitamutheo dzi re kha mutevhe wa *DziThumetshedzo* dza A, B na C, dzine dza nga shumiswa kha ndivho dzine a dzo ngo iledzwa sa zwo sumbedzwaho kha pharagirafu ya 9 ya Atikili ya II ya Thendelano ya Zwihali zwa Khemikhaɭa: Tenda tshaka na zwivhalo zwa anana na idzo ndivho, hu nga vha dzi kha tshivhumbeokuna kana tshi re muvango. Tshifhinga tshiñwe na tshiñwe, kha *DziThumetshedzo* dza A na B, zwi kwamaho zwigwada zwi re dzikhemikhaɭa dzi re *dialkylated* zwi tevhelwaho nga mutevhe wa zwigwada zwa *alkyl* kha zwitange, khemikhaɭa dzothe dzi konea nga khonadzeo ya *thanganyiso* dza zwigwada zwa *alkyl* kha mutevhe u re zwitangeni dzi a lavheleswa uri dzi vhe thundu dzi langwaho, nga nnda ha idzo dzo vhofohololwaho zwine zwa vha khagala kha *Thumetshedzo* ya B;

- (b) khemikha_{la} dzi re mulimo dzi kha mutevhe wa _lhumetshedzo ya D, dzi nga vha dzi kha tshivhumbeokuna kana kha muvanganyo;
- (c) dzikhemikha_{la} dza u langa mifhirifhiri dzi kha mutevhe wa _lhumetshedzo ya E, hu nga vha dzi kha tshivhumbeokuna kana kha muvanganyo, nga nnda ha—
- (i) thundu dzi re na capsacin dzo dzudzanyelwaho u rengiswa u itela u shumiswa nga muthu ene mu_lhe; na
- (ii) thundu dzi re na khemikha_{la} dza u langa mifhirifhiri dzo dzudzanyelwaho ndivho dza vhubvedzi ha zwi_liwa kana zwa dzilafho;
- (d) mishonga ya u vhulaya zwimela i kha mutevhe wa _lhumetshedzo ya F, i nga vha i kha tshivhumbeokuna kana kha muvanganyo;
- (e) tshiimiswa tshi_lwe na tshi_lwe tshine tsha bvedza, tsha wana, tsha shumisa kana u vhulunga tshivhalo tshi_lwe na tshi_lwe tsha khemikha_{la} dzi re mulimo na thukhitamutheo kha mutevhe wa _lhumetshedzo ya A. Sa zwe zwa sumbedzwa kha pharagirafu ya 8 ya Tshipi_la tsha VI tsha _lhumetshedzokhwa_lhisedzi ya Thendelano ya Zwihali zwa Khemikha_{la}, vhubvedzi ha dzikhemikha_{la} dzi re mulimo na thukhitamutheo kha mutevhe wa _lhumetshedzo ya A dzi tea u itwa fhedzi kha tshiimiswa tshi bvedzaho zwithu zwi si zwinzhi. Khemikha_{la} dzi re mulimo na dzithukhitamutheo dzi tea u shumiselwa fhedzi kha ndivho dza zwa t_lho_ldisiso, dzilafho, famasi kana tsireledzo, nahone gumofulu _la idzo

dzikhemikha_{la} kha idzo ndivho tshifhinga tshi_ñwe na tshi_ñwe _{li} tea u vha fhasi ha thani kana u tou lingana na thani nthihi;

- (f) tshiimiswa tshi_ñwe na tshi_ñwe tsha zwa khemikha_{la} tsho bveledzaho, shumaho kana tsho shumisaho kha _ñwaha wo fhiraho kana tshine tsha khou lavhelela u bveledza, u shuma kana u shumisa kha _ñwaha une wa khou _{da}, dzigireme dza 10 kana nnzhi dza khemikha_{la} ya BZ i re mulimo i re kha mutevhe wa _Thumetshedzo ya B, khi_{logi}reme nthihi kana nnzhi dza khemikha_{la} ya Amiton i re mulimo kana PFIB kha mutevhe wa _Thumetshedzo ya B kana khi_{logi}reme dza 10 kana nnzhi dza thukhitamutheo kha mutevhe wa _Thumetshedzo ya B;
- (g) tshiimiswa tshi_ñwe na tshi_ñwe tsha zwa khemikha_{la} tsho bveledzaho kha _ñwaha wo fhelaho kana tshine kha _ñwaha u _{da}haho tsha lavhelela u bveledza khi_{logi}reme dza 100 kana u fhira dza khemikha_{la} i re mulimo i re kha mutevhe wa _Thumetshedzo ya C;
- (h) tshiimiswa tsha zwa khemikha_{la} tshi_ñwe na tshi_ñwe tsho bveledzaho nga mbumbekanyo ya khemikha_{la}, gumofulu _{la} tshivhalo tsha dzithani dza 100 kana u fhira nomboro i_ñwe na i_ñwe ya dzikhemikha_{la} dza oganiki dzi re thungo kana mu_{no} wayo, kana gumofulu _{la} tshivhalo tsha dzithani dza 15 kana u fhira PSF nthihi i_ñwe na i_ñwe ya khemikha_{la} ya oganiki i re thungo kana mu_{no} wayo, kha _ñwaha wo fhiraho. U itela ndivho dza ino pharagirafu, thukhita dza polymeric na oligomeric a dzi dzhiwi sa dzikhemikha_{la} dza oganiki dzi re thungo. U itela ndivho dza ino

pharagirafu, zwiimiswa zwa khemikha|a zwine zwa—

- (i) bveledza zwithuthubi kana haidrokharon fhedzi, zwi khou vhofohololwa;
 - (ii) bveledza thukhita dza polymeric na oligomeric fhedzi, zwi khou vhofohololwa;
 - (iii) bveledza dzikhemikha|a dza oganiki dzi re thungo kana dzikhemikha|a dza oganiki ya dzi re thungo dza PSF, khathihi na haidrokharon, zwithuthubi kana thukhita dza polymeric na oligomeric, a zwi vhofohololwi; kana
 - (iv) shuma dzikhemikha|a kana muvango kana u ita dzikhemikha|a dza vha zwibveledzwa u tou fana na zwivhulayazwikhokhonono, dzipennde kana zwikunakisi, hune a hu tu tou vha na munyanyuwo wa khemikha|a, zwi khou vhofohololwa;
- (i) thekhino|odzhi i to|eaho kha vhubveledzi ha thundu dzi langwaho dzi re kha mutevhe wa T humetshedzo ya A na dzikhemikha|a dzi re mulimo dzi re kha mutevhe wa T humetshedzo ya B; na
 - (j) u magiwa ha, na nyisedzo ya dzitshumelo malugana na thundu dzi langwaho dzi re kha mutevhe wa T humetshedzo ya A.

Phungudzelondangi

5. (1) Phungudzelondangi dza thundu dzi langwaho kha ndivho dza ndivhadzo dzi tea u vha dzi tevhelaho:

- (a) zwivhalo zwothe zwa khemikha|a dzi re mulimo na thukhitamutheo

dzi re kha mutevhe wa T humetshedzo ya A, hu nga vha dzi kha tshivhumbeokuna kana dzi kha muvango na thukhita dziñwe na dziñwe;

(b) gumofulu la vhunzhi nga ñwaha la—

- (i) khemikha la i re mulimo ya BZ kha mutevhe wa T humetshedzo ya B khulwane kha kana u tou lingana na dzigireme dza 10, hu nga vha i kha tshivhumbeokuna kana kha muvanganyo na thukhita iñwe na iñwe kha kuḑalele kunzhi kha kana u tou lingana na phesenthe nthihi nga tshileme;
- (ii) khemikha la dzi re mulimo dza Amiton na PFIB dzi re kha mutevhe wa T humetshedzo ya B nnzhi kha kana dzine dza tou lingana na khi logireme nthihi, hu nga vha dzi kha tshivhumbeokuna kana kha muvanganyo na thukhitha iñwe na iñwe kha kuḑalele kunzhi kha kana u tou lingana na phesenthe nthihi nga tshileme; kana
- (iii) thukhitamutheo dzi re kha mutevhe wa T humetshedzo ya B nnzhi kha kana u tou lingana na khi logireme dza 10, hu nga vha dzi kha tshivhumbeokuna kana dzi kha muvanganyo na thukhita iñwe na iñwe i re na kuḑalele kunzhi kha kana u tou lingana na phesenthe dza 30 nga tshileme;

(c) gumofulu la vhunzhi nga ñwaha la khemikha la dzi re mulimo na thukhitamutheo dzi re kha mutevhe wa T humetshedzo ya C nnzhi

kha kana dzine dza tou lingana na khi^hogireme dza 100, hu nga vha dzi kha tshivhumbeokuna kana kha muvanganyo na thukhita i^hwe na i^hwe kha ku^hdalele kunzhi kha kana u tou lingana na phesenthe dza 30 nga tshileme;

- (d) gumofulu ^ha vhunzhi nga ^hwaha ^ha dzo^hthe dzikhemikha^ha dza oganiki dzi re thungo kana mu^ho wadzo dzo bveledzwaho kha vhufhethu ha vhubveledzakhemikha^ha nnzhi kha kana dzine dza lingana na dzithani dza 100 dzi kha tshivhumbeokuna;
- (e) gumofulu ^ha vhunzhi nga ^hwaha ^ha dzo^hthe dzikhemikha^ha dza oganiki dzi re thungo dza PSF kana mu^ho wadzo ^ho bveledzwaho tshiimiswani tsha zwa khemikha^ha nnzhi kha kana u tou lingana na dzithani dza 15 dzi kha tshivhumbeokuna;
- (f) gumofulu ^ha vhunzhi nga ^hwaha ^ha dzikhemikha^ha dzi re mulimo kha mutevhe wa ^hhumetshedzo ya D nnzhi kha kana dzine dza tou lingana na thani nthihi, hu nga vha dzi kha tshivhumbeokuna kana kha muvanganyo na thukhita i^hwe na i^hwe kha ku^hdalele kunzhi kha kana u tou lingana na phesenthe dza 30 nga tshileme;
- (g) gumofulu ^ha vhunzhi nga ^hwaha ^ha khemikha^ha dza u langa mifhirifhiri kha mutevhe wa ^hhumetshedzo ya E nnzhi kha kana u tou lingana na khi^hogireme dza 100, hu nga vha dzi kha tshivhumbeokuna kana kha muvanganyo na thukhita i^hwe na i^hwe, nga nn^ha ha zwibveledzwa zwi ^hivhelwaho uri zwo dzudzanyelwa vharengi hu tshi itelwa u rengisa uri muthu ene mu^he a zwi shumise; na

- (h) vhunzhi vhuṁwe na vhuṁwe nga ṁwaha ha mishonga ya u vhulaya zwimela sa zwi re kha mutevhe wa Ṭhumetshedzo ya F, hu nga vha zwi kha tshiimokuna kana kha muvango na thukhita iṁwe na iṁwe.
- (2) Kha ndivho dza pharagirafu ṭhukhu dza (1)(a), (b) na (c), phungudzelo dza vhunzhi dzoṭhe hu katelwa vhunzhi ha dzikhemikhaḷa dzi langwaho nahone dzi sikwaho sa zwiṭungulwa/manyelo kana sa zwipiḽa zwa malaṭwa kana vhutsinga ha manyelo kha kuitele kwa vhubveledzi ha khemikhaḷa.
- (3) Phungudzelondangi dza thundu dzi langwaho hu tshi itelwa ndivho dza phiriso dzi tea u vha dzi tevhelaho:
- (a) Vhunzhi hoṭhe ha khemikhaḷa dzi re mulimo na thukhitamutheo kha mutevhe wa Ṭhumetshedzo ya A, hu nga vha dzi kha tshivhumbeokuna kana kha muvanganyo na thukhita iṁwe na iṁwe; na
- (b) Vhunzhi hoṭhe ha khemikhaḷa na thukhitamutheo kha mutevhe wa Ṭhumetshedzo ya B.

Zwi dzhielwe nzhele:

- (i) Khemikhaḷa i re mulimo ya BZ kha mutevhe wa Ṭhumetshedzo ya B, hu nga vha i kha tshivhumbeokuna kana kha muvanganyo na thukhita iṁwe na iṁwe kha kuḽalele kunzhi kha kana une wa lingana na phesenthe nthihi nga tshileme;

- (ii) Dzikhemikha_{la} dzi re mulimo dza Amiton na PFIB kha mutevhe wa _lhumetshedzo ya B, hu nga vha dzi kha tshiimokuna kana kha muvanganyo na thukhita in_we na in_we kha ku_ldalele kunzhi kha kana une wa tou lingana na phesenthe nthihi nga tshileme; kana
- (iii) Thukhitamutheo dzi re kha _lhumetshedzo ya B, hu nga vha dzi kha tshivhumbeokuna kana kha muvanganyo na thukhita in_we na in_we kha ku_ldalele kunzhi kha kana une wa lingana na phesenthe dza 30 nga tshileme;
- (c) gumofulu _{la} vhunzhi ha dzikhemikha_{la} na thukhitamutheo kha mutevhe wa _lhumetshedzo ya C nnzhi kha kana u tou lingana na khi_logireme dza 25, hu nga vha dzi kha tshivhumbeokuna kana kha muvanganyo wa thukhita in_we na in_we kha ku_ldalele kunzhi kha kana une wa tou lingana na phesenthe dza 30 nga tshileme;
- (d) gumofulu _{la} vhunzhi ha dzikhemikha_{la} dzi re kha mutevhe wa _lhumetshedzo ya D nnzhi kha kana u tou lingana na khi_logireme dza 100, hu nga vha dzi kha tshivhumbeokuna kana kha muvanganyo na thukhita in_we na in_we kha ku_ldalele kunzhi kha kana une wa tou lingana phesenthe dza 30 nga tshileme;
- (e) vhunzhi vhu_nw_e na vhu_nw_e ha khemikha_{la} dza u langa mufhirifhiri kha mutevhe wa _lhumetshedzo ya E, hu nga vha dzi kha tshivhumbeokuna kana kha muvanganyo na thukhita in_we na in_we, nga nn_la ha kha zwibveledzwa zwi _livhelwaho uri zwo

dzudzanyelwa u vha thundu ya vharengi hu tshi itelwa u rengiswa uri
dzi shumiswe nga muthu ene muḵe; na

- (f) vhunzhi vhuḵwe na vhuḵwe ha mishonga ya u vhulaya zwimela kha
mutevhe wa Ṱhumetshedzo ya F, hu nga vha i kha tshivhumbeokuna
kana kha muvanganyo na thukhita iḵwe na iḵwe.

- (4) Zwibveledzwa zwi re na dzikhemikhaḵa dzi re kha mutevhe wa
Ṱhumetshedzo ya B zwi nga rengiselwa mashangoḵavha kha mashango
ane a sa vhe Miraḵo kana ane a sa vhe Tshipiḵa kha Thendelano ya
Zwihali zwa Khemikhaḵa: Tenda zwibveledzwa zwo bulwaho zwa vha zwi
na—

- (a) phesenthe nthihi kana phesenthe Ṱhukhu ya dzikhemikhaḵa kha
mutevhe wa Ṱhumetshedzo ya B; kana

- (b) phesenthe dza 10 kana phesenthe Ṱhukhu dza thukhitamutheo kha
mutevhe wa Ṱhumetshedzo ya B; na

dzi dzhiwaho sa thundu dza vharengi dzo dzudzanyelwaho u rengiswa uri
dzi shumiswe nga muthu ene muḵe.

- (5) Zwibveledzwa zwi re na dzikhemikhaḵa kha mutevhe wa Ṱhumetshedzo ya
C zwi nga rengiselwa mashangoḵavha hu songo thoma ha wanala
thendelo zwi tshi rengiselwa mashango ane a si Miraḵo kana ane asa vhe
Tshipiḵa kha Thendelano ya Zwihali zwa Khemikhaḵa: Tenda
zwibveledzwa zwo bulwaho zwa vha zwi na phesenthe Ṱhukhu kha 30 ya

khemikha^{la} kha mutevhe wa ^Thumetshedzo ya C nahone zwi dzhiwaho sa zwibveledzwa zwa vharengi zwo dzudzanyelwaho uri zwi rengiswe uri zwi shumiswe nga muthu ene mu^{ne}.

Fomo dza u ita khumbelo

6. Fomo dza u ita khumbelo dza thendelo dzo bulwaho kha pharagirafu ya 3 ya ino Nqivhadzo dzi nga wanala kha in^{we} na in^{we} ya qiresi dzi tevhelaho:

- (a) Qiresi ya posoni:

The Secretariat
South African Council for the Non-Proliferation of Weapons of Mass
Destruction
Private Bag X84
PRETORIA
0001; or

- (b) Qiresi ya fhethu:

The Secretariat
South African Council for the Non-Proliferation of Weapons of Mass
Destruction
77 Meintjies Street
Sunnyside
PRETORIA or

- (c) Webusaithi ya khoro ya the South African Council for the Non-Proliferation of Weapons of Mass Destruction kha <http://non-proliferation.thedtic.gov.za/>.

Pheliso

7. Nqivhadzo ya Muvhuso ya Nomboro ya 495 ya dzi 29 ^Thafamuhwe 2019 kha Gazete ya Muvhuso ya Nomboro ya 42337 i khou fhelisiwa.

VHO EBRAHIM PATEL



MINISIṬA WA ZWA MAKWEVHO, NḐOWETSHUMO NA MUṬAṬISANO

T H U M E T S H E D Z O Y A A

Shedulu ya 1 ya Thendelano ya Zwihali zwa Khemikha

(Chemical Abstracts Service
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A. Khemikha[a] dzi re Mulimo:

(1) O-Alkyl (<C10, incl. cycloalkyl) alkyl

(Me, Et, n-Pr or i-Pr)-phosphonofluoridates

e.g. Sarin: O-Isopropyl methylphosphonofluoridate (107-44-8)

Soman: O-Pinacolyl methylphosphonofluoridate (96-64-0)

(2) O-Alkyl (<C10, incl. cycloalkyl) N,N-dialkyl

(Me, Et, n-Pr or i-Pr) phosphoramidocyanidates

e.g. Tabun: O-Ethyl N,N-dimethyl
phosphoramidocyanidate (77-81-6)

(3) O-Alkyl (H or <C10, incl. cycloalkyl) S-2-dialkyl

(Me, Et, n-Pr or i-Pr)-aminoethyl alkyl

(Me, Et, n-Pr or i-Pr) phosphonothiolates and
corresponding alkylated or protonated salts

e.g. VX: O-Ethyl S-2-diisopropylaminoethyl
methyl phosphonothiolate (50782-69-9)

(4) Sulfur mustards:

2-Chloroethylchloromethylsulfide (2625-76-5)

Mustard gas: Bis(2-chloroethyl)sulfide (505-60-2)

Bis(2-chloroethylthio)methane (63869-13-6)

Sesquimustard: 1,2-Bis(2-chloroethylthio)ethane (3563-36-8)

1,3-Bis(2-chloroethylthio)-n-propane (63905-10-2)

1,4-Bis(2-chloroethylthio)-n-butane (142868-93-7)

- 1,5-Bis(2-chloroethylthio)-n-pentane (142868-94-8)
 Bis(2-chloroethylthiomethyl)ether (63918-90-1)
 O-Mustard: Bis(2-chloroethylthioethyl)ether (63918-89-8)
- (5) Lewisites:
 Lewisite 1: 2-Chlorovinylchloroarsine (541-25-3)
 Lewisite 2: Bis(2-chlorovinyl)chloroarsine (40334-69-8)
 Lewisite 3: Tris(2-chlorovinyl)arsine (40334-70-1)
- (6) Nitrogen mustards:
 HN1: Bis(2-chloroethyl)ethylamine (538-07-8)
 HN2: Bis(2-chloroethyl)methylamine (51-75-2)
 HN3: Tris(2-chloroethyl)amine (555-77-1)
- (7) Saxitoxin (35523-89-8)
- (8) Ricin (9009-86-3)
- (13) P-alkyl (H or $\leq C_{10}$, incl. cycloalkyl) N-(1-(dialkyl($\leq C_{10}$, incl. cycloalkyl)amino))alkylidene(H or $\leq C_{10}$, incl. cycloalkyl) phosphonamidic fluorides and corresponding alkylated or protonated salts
- e.g. N-(1-(di-n-decylamino)-n-decylidene)-P-decylphosphonamidic fluoride (2387495-99-8)
 Methyl-(1-(diethylamino)ethylidene)phosphonamidofluoride (2387496-12-8)
- (14) O-alkyl (H or $\leq C_{10}$, incl. cycloalkyl) N-(1-(dialkyl($\leq C_{10}$, incl. cycloalkyl)amino))alkylidene(H or $\leq C_{10}$, incl. cycloalkyl) phosphoramidofluorides and corresponding alkylated or protonated salts
- e.g. O-n-Decyl N-(1-(di-n-decylamino)-n-decylidene)phosphoramidofluoride (2387496-00-4)
 Methyl (1-(diethylamino)ethylidene)phosphoramidofluoride (2387496-04-8)
 Ethyl (1-(diethylamino)ethylidene)phosphoramidofluoride (2387496-06-0)
- (15) Methyl-(bis(diethylamino)methylene)phosphonamidofluoride (2387496-14-0)

- (16) Carbamates (quaternaries and bisquaternaries of dimethylcarbamoyloxy pyridines) Quaternaries of dimethylcarbamoyloxy pyridines:

1-[N,N-dialkyl($\leq C_{10}$)-N-(n-(hydroxyl, cyano, acetoxy)alkyl($\leq C_{10}$)) ammonio]-n-[N-(3-dimethylcarbamoyloxy- α -picolyl)-N,N-dialkyl($\leq C_{10}$) ammonio]decane dibromide (n=1-8)

e.g. 1-[N,N-dimethyl-N-(2-hydroxy)ethylammonio]-10-[N-(3-dimethylcarbamoyloxy- α -picolyl)-N,N-dimethylammonio]decane dibromide (77104-62-2)

Bisquaternaries of dimethylcarbamoyloxy pyridines: 1,n-Bis[N-(3-dimethylcarbamoyloxy- α -picolyl)-N,N-dialkyl($\leq C_{10}$) ammonio]-alkane-(2,(n-1)-dione) dibromide (n=2-12)

e.g. 1,10-Bis[N-(3-dimethylcarbamoyloxy- α -picolyl)-N-ethyl-N-methylammonio]decane-2,9-dione dibromide (77104-00-8)

B. Thukhitamutheo:

- (9) Alkyl (Me, Et, n-Pr or i-Pr) phosphonyldifluorides

e.g. DF: Methylphosphonyldifluoride (676-99-3)

- (10) O-Alkyl (H or $\leq C_{10}$, incl. cycloalkyl) O-2-dialkyl (Me, Et, n-Pr or i-Pr)-aminoethyl alkyl (Me, Et, n-Pr or i-Pr) phosphonites and corresponding alkylated or protonated salts

e.g. QL: O-Ethyl O-2-diisopropylaminoethyl methylphosphonite (57856-11-8)

- (11) Chlorosarin: O-Isopropyl methylphosphonochloridate (1445-76-7)

(12) Chlorosoman: O-Pinacolyl methylphosphonochloridate

(7040-57-5)

T H U M E T S H E D Z O Y A B

Shedulu ya 2 ya Thendelano ya Zwi hali zwa Khemikhala

(Chemical Abstracts Service
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A. Khemikhala dzi re Mulimo:

- (1) Amiton:
O,O-Diethyl S-[2-(diethylamino) ethyl] phosphorothiolate
and corresponding alkylated or protonated salts (78-53-5)
- (2) PFIB:
1,1,3,3,3-Pentafluoro-2-(trifluoromethyl)-1-propene (382-21-8)
- (3) BZ:
3-Quinuclidinyl benzilate (6581-06-2)

B. Thukhltamutheo:

- (1) Chemicals, except for those listed in Schedule 1,
containing a phosphorus atom to which is bonded
one methyl, ethyl or propyl (normal or iso) group
but not further carbon atoms, such as

Methylphosphonyl dichloride	(676-97-1)
Dimethyl methylphosphonate	(756-79-6)
Diethyl ethylphosphonate	(78-38-6)
Ethylphosphinyl dichloride	(1498-40-4)
Ethylphosphonyl dichloride	(1066-50-8)

- | | |
|---|--------------|
| Methylphosphinyl dichloride | (676-83-5) |
| Ethylphosphinyl difluoride | (430-78-4) |
| Methylphosphinyl difluoride | (753-59-3) |
| Methylphosphonic acid | (993-13-5) |
| Methylphosphonothioic dichloride | (676-98-2) |
| Diethyl methylphosphonite | (15715-41-0) |
| Dimethyl ethylphosphonate | (6163-75-3) |
| Mbofhololo: | |
| Fonofos: | |
| O-Ethyl S-phenyl ethylphosphonothiolothionate | (944-22-9) |
| (2) N,N-Dialkyl (Methyl, Ethyl, n-Propyl or Isopropyl) phosphoramidic dihalides | |
| (3) Dialkyl (Methyl, Ethyl, n-Propyl or Isopropyl) N,N-dialkyl (Methyl, Ethyl, n-Propyl or Isopropyl)-phosphoramidates, such as | |
| Diethyl N,N-dimethylphosphoramidate | (2404-03-7) |
| (4) Arsenic trichloride | (7784-34-1) |
| (5) 2,2-Diphenyl-2-hydroxyacetic acid (Benzilic acid) | (76-93-7) |
| (6) Quinuclidin-3-ol | (1619-34-7) |
| (10) N,N-Dialkyl (Methyl, Ethyl, n-Propyl or Isopropyl) aminoethyl-2-chlorides and corresponding protonated salts, such as | |
| N,N-Diisopropyl-(beta)-aminoethyl chloride | (96-79-7) |
| N,N-Diisopropyl-2-aminoethyl chloride hydrochloride | (4261-68-1) |
| N,N-Dimethylaminophosphoryl dichloride | (676-98-2) |
| (11) N,N-Dialkyl (Methyl, Ethyl, n-Propyl or Isopropyl) | |

aminoethane-2-ols and corresponding protonated salts, such as

N,N-Diisopropyl-(beta)-aminoethanol (96-80-0)

Mbofhololo:

N,N-Dimethylaminoethanol (108-01-0)

and corresponding protonated salts

Protonated salts of N,N-Diethylaminoethanol (100-37-8)

- (12) N,N-Dialkyl (Methyl, Ethyl, n-Propyl or Isopropyl) aminoethane-2-thiols and corresponding protonated salts, such as

N,N-Diisopropyl-(beta)-aminoethane thiol (5842-07-9)

- (13) Thiodiglycol:

Bis (2-hydroxyethyl) sulphide (111-48-8)

- (14) Pinacolyl alcohol:

3,3-Dimethylbutan-2-ol (464-07-3)

T H U M E T S H E D Z O Y A C**Shedulu ya 3 ya Thendelano ya Zwihali zwa Khemikhala**

(Chemical Abstracts Service
Registry Number)

A. Khemikhala dzi re mulimo:

- | | | |
|-----|-------------------------------------|------------|
| (1) | Phosgene: Carbonyl dichloride | (75-44-5) |
| (2) | Cyanogen chloride | (506-77-4) |
| (3) | Hydrogen cyanide | (74-90-8) |
| (4) | Chloropicrin: Trichloronitromethane | (76-06-2) |

B. Thukhitamutheo:

- | | | |
|------|--------------------------|--------------|
| (5) | Phosphorus oxychloride | (10025-87-3) |
| (6) | Phosphorus trichloride | (7719-12-2) |
| (7) | Phosphorus pentachloride | (10026-13-8) |
| (8) | Trimethyl phosphite | (121-45-9) |
| (9) | Triethyl phosphite | (122-52-1) |
| (10) | Dimethyl phosphite | (868-85-9) |
| (11) | Diethyl phosphite | (762-04-9) |
| (12) | Sulphur monochloride | (10025-67-9) |

(13)	Sulphur dichloride	(10545-99-0)
(14)	Thionyl chloride	(7719-09-7)
(15)	Ethyldiethanolamine	(139-87-7)
(16)	Methyldiethanolamine	(105-59-9)
(17)	Triethanolamine	(102-71-6)

T H U M E T S H E D Z O Y A D

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Khemikha|a dzi re mulimo:

- | | | |
|------|------------------------------|-------------|
| (1) | 3-Hydroxy-1-methylpiperidine | (3554-74-3) |
| (2) | Potassium fluoride | (7789-23-3) |
| (3) | 2-Chloroethanol | (107-07-3) |
| (4) | Dimethylamine | (124-40-3) |
| (5) | Dimethylamine hydrochloride | (506-59-2) |
| (6) | Hydrogen fluoride | (7664-39-3) |
| (7) | Methyl benzilate | (76-89-1) |
| (8) | 3-Quinuclidone | (3731-38-2) |
| (9) | Pinacolone | (75-97-8) |
| (10) | Potassium cyanide | (151-50-8) |
| (11) | Potassium bifluoride | (7789-29-9) |
| (12) | Ammonium bifluoride | (1341-49-7) |
| (13) | Sodium bifluoride | (1333-83-1) |
| (14) | Sodium fluoride | (7681-49-4) |

(15)	Sodium cyanide	(143-33-9)
(16)	Phosphorus pentasulphide	(1314-80-3)
(17)	Di-isopropylamine	(108-18-9)
(18)	Diethylaminoethanol	(100-37-8)
(19)	Sodium sulphide	(1313-82-2)
(20)	Triethanolamine hydrochloride	(637-39-8)
(21)	Triisopropyl phosphite	(116-17-6)
(22)	O,O-Diethyl phosphorothioate	(2465-65-8)
(23)	O,O-Diethyl phosphorodithioate	(298-06-6)
(24)	Sodium hexafluorosilicate	(16893-85-9)

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Khemikha|a dza u Langa Mifhirifhiri

Khemikha|a dza u langa mifhirifhiri ndi dzi tevhelaho:

- | | | |
|-----|--|-------------|
| (1) | α -Bromobenzeneacetonitrile,
(Bromobenzyl cyanide), (CA) | (5798-79-8) |
| (2) | 2-Chloro-1-phenyl-ethanone, (Phenylacyl chloride),
(ω -chloroacetophenone), (CN) | (532-27-4) |
| (3) | [(2-chlorophenyl)-methylene] propanedinitrile,
(o-Chlorobenzylidenemalonitrile), (CS) | (2698-41-1) |
| (4) | Dibenz (b,f)-1,4-oxazepine, (CR) | (257-07-8) |
| (5) | Diphenylaminochloroarsine, (10-Chloro-5,10-dihydrophen-
arsazine), (Phenarsazine chloride), (Adamsite), (DM) | (578-94-9) |
| (6) | N-nonanylmorpholine, (MPA) | (5299-64-9) |
| (7) | trans-8-Methyl-N-vanillyl-6-nonenamide, (Capsaicin), (Pepper
Spray), [N-(4-hydroxy-3-methoxy benzyl)-8-methyl-non-trans-6-enamide], | (404-86-4) |
| (8) | Ethyl bromoacetate, (EBA) | (105-36-2) |
| (9) | Pelargonic acid vanillylamide | (2444-46-4) |

- | | | |
|------|--|--------------|
| (10) | Phenyl chloride | (108-90-7) |
| (11) | Mixture of OC and CS | |
| (12) | Oleoresin capsicum (OC) | (8023-77-6) |
| (13) | 8-Methyl-N-vanillylnonamide
(dihydrocapsaicin) | (19408-84-5) |
| (14) | N-Vanillyl-9-methyldec-7-(E)-enamide
(homocapsaicin) | (58493-48-4) |
| (15) | N-Vanillyl-9-methyldecanamide
(homodihydrocapsaicin) | (20279-06-5) |
| (16) | N-Vanillyl-7-methyloctanamide
(nordihydrocapsaicin) | (28789-35-7) |
| (17) | 2'-Chloroacetophenone | (2142-68-9) |
| (18) | 3'-Chloroacetophenone | (99-02-5) |
| (19) | α -Chlorobenzylidenemalononitrile | (18270-61-6) |
| (20) | Cis-4-acetylamino-dicyclohexylmethane | (37794-87-9) |
| (21) | N,N'-Bis (isopropyl) ethylenediimine (E,E 28227-41-0; Z,Z 185245-09-4) | |
| (22) | N,N'-Bis (tert-butyl) ethylenediimine (30834-74-3; E,E 28227-42-1) | |

T H U M E T S H E D Z O Y A F

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Mishonga ya u vhulaya zwimela:

Mishonga ya u vhulaya zwimela ndi i tevhelaho:

- | | | |
|-----|---|-------------|
| (1) | Butyl 2-chloro-4-fluorophenoxyacetate (LNF) | (1692-85-9) |
| (2) | Mixtures of 2,4,5-T and 2,4-D where: | |
| | 2,4,5-T: 2,4,5-Trichlorophenoxyacetic acid | (93-76-5) |
| | 2,4-D: 2,4-Dichlorophenoxyacetic acid | (94-75-7) |
| (3) | Mixtures of Picloram where: | |
| | Picloram: 4-Amino-3,5,6-trichloropicolinic acid | (1918-02-1) |
| (4) | Dimethylarsinic acid (Cacodylic acid) | (75-60-5) |