



Embankment Park, 194 Kwikkie Crescent, Centurion 0157
PO Box 8144, Centurion 0046, South Africa ☎ +27 12 663 9097
☎ +27 12 663 9612 ✉ admin@afma.co.za 🌐 www.afma.co.za

GUIDELINE LIST OF HAZARDOUS MATERIALS FOR EWS REPORTING

EARLY WARNING SYSTEM (EWS)

For members of:

**Animal Feed Manufactures Association (AFMA) and
Pet Food Industry (PFI)**

For undesirable substances in Feedstuffs and Animal Feed/Pet Food in South Africa

(NB. This list is a guideline and does not exclude any hazardous substance not mentioned). List based on the Guidelines of Act 36 of 1947.

The list will be updated as new risks are identified, locally and/or internationally through different alerting mechanism.

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Board of Directors: Dr E Briedenhann (Chairperson) T Clark TH Cottle L Dunn JJP du Plessis H Köster
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1. GUIDELINE LIST OF HAZARDOUS MATERIALS FOR EWS REPORTING

1.1 UNDESIRABLE SUBSTANCES IN FARM FEEDS

| SUBSTANCE, PRODUCTS | FARM FEEDS | MAXIMUM CONTENT IN mg/kg (ppm) relative to a farm feed with a moisture content of 120g/kg |
|-------------------------------|--|---|
| (1) | (2) | (3) |
| Substances (ions or elements) | | |
| 1. Arsenic | Feed ingredients with the exception of: | 2 |
| | - Hays, straws, Lucerne, roughages and bagasse | 4 |
| | - phosphates and ingredients obtained from the processing of fish or other marine animals. | 10 |
| | Complete farm feeds with the exception of: | 2 |
| | - complete farm feeds for fish | 4 |
| | Supplements/concentrates with the exception of: | 4 |
| | - Mineral feeds, concentrates & pre-mixtures | 12 |
| 2. Lead | Ingredients with the exception of: | 10 |
| | - green roughages | 40 |
| | - phosphates | 30 |
| | - yeasts | 5 |
| | - Complete farm feeds | 5 |
| | Supplements/concentrates with the exception of: | 10 |
| | - Mineral feeds | 30 |
| 3. Fluorine | Feed Ingredients with the exception of: | 150 |
| | - ingredients of animal origin | 500 |
| | - phosphates | 95 per 1% P |

| SUBSTANCE, PRODUCTS | FARM FEEDS | MAXIMUM CONTENT IN mg/kg (ppm) relative to a farm feed with a moisture content of 120g/kg |
|---------------------|--|---|
| (1) | (2) | (3) |
| | Complete farm feeds with the exception of: | 150 |
| | - complete feeds for lactating cattle, sheep and goats | 30 |
| | - other | 50 |
| | - complete feeds for pigs | 100 |
| | - complete feeds for poultry | 350 |
| | - complete feeds for chicks | 250 |
| | Mineral supplements for cattle, sheep and goats | 2000 |
| | Other Concentrates/supplements | 125 per 1% P |
| 4. Mercury | Feed ingredients except feed ingredients produced by the processing of fish or other marine animals | 0,1 |
| | Feed ingredients produced by the processing of fish or other marine animals | 0,5 |
| | Complete feeds except for dogs and cats. | 0,1 |
| | - Complete feeds for dogs and cats. | 0,4 |
| | Concentrates/supplements except complementary food for dogs and cats | 0,2 |
| 5. Nitrites | Fish meal | 60 (expressed as sodium nitrite) |
| | Complete feeds excluding: - ingredients intended for pets except birds and aquarium fish. | 15 (expressed as sodium nitrite) |
| 6. Cadmium | Ingredients of vegetable origin | 1 |
| | Ingredients of animals origin except feeding stuffs for pets | 2 |
| | Phosphates | 10 per 1% P |

| SUBSTANCE, PRODUCTS | FARM FEEDS | MAXIMUM CONTENT IN mg/kg (ppm) relative to a farm feed with a moisture content of 120g/kg |
|----------------------------|--|---|
| (1) | (2) | (3) |
| | Complete farm feeds for cattle, sheep and goats except complete feeds for calves, lambs and kids | 1 |
| | Other complete feeds except feeds for pets | 0,5 |
| | Mineral feeds | 5 |
| | Other Concentrates/ Supplements for cattle, sheep and goats | 0,5 |
| 1. Aflatoxin B1 | Feed ingredients with the exception of: | 0.05 |
| | - Groundnut, copra, palm-kernel, cotton seed, maize and products derived from the processing thereof | 0,02 |
| | Complete farm feeds for cattle, sheep and goats with the exception of: | 0,05 |
| | - dairy cattle | 0,005 |
| | - calves and lambs | 0,01 |
| | Complete feeds for pigs and poultry (except young animals) | 0,02 |
| | Other complete farm feeds | 0,01 |
| | Supplement/concentrates for cattle, sheep and goats (except for dairy animals, calves and lambs) | 0,05 |
| 2. Hydrocyanic acid | Feed ingredients with the exception of: 8 | 50 |
| | Linseed | 250 |
| | Linseed cakes | 350 |
| | Manioc products and almond cakes | 100 |
| | Complete feeds with the exception of: | 50 |

| SUBSTANCE, PRODUCTS | FARM FEEDS | MAXIMUM CONTENT IN mg/kg (ppm) relative to a farm feed with a moisture content of 120g/kg |
|---|---|---|
| (1) | (2) | (3) |
| | - complete feeds for chickens: | 10 |
| 3. Free gossypol | Feed ingredients with the exception of: | 20 |
| | - cotton seed cakes | 1 200 |
| | - cotton seed | 5 000 |
| | Complete farm feeds with the exception of: | 20 |
| | - complete feeds for cattle, sheep and goats | 500 |
| | - complete feeds for poultry (except laying hens) and calves | 100 |
| | - complete feeds for rabbits and pigs (except piglets) | 60 |
| 4. Theobromine | Complete farm feeds with the exception of: | 300 |
| | - complete feeds for adult cattle | 700 |
| 5. Volatile mustard oil | Feed ingredients with the exception of: | 100 |
| | - rape seed cakes | 4 000 (expressed as allyl isothiocyanate) |
| | Complete farm feeds with the exception of | 150 (expressed as allyl isothiocyanate) |
| | - complete feeds for cattle, sheep and goats (except young animals) | 1 000 (expressed as allyl isothiocyanate) |
| | - complete feeds for pigs (except piglets) and poultry | 500 (expressed as allyl isothiocyanate) |
| 6. Vinyl thioxazolidone (vinylloxazolidine thione) | Complete feeds for poultry with the exception of: | 1 000 |
| | - complete feeds for laying hens | 500 |
| 7. Rye ergot (<i>Claviceps purpurea</i>) | All farm feeds containing unground cereals | 1 000 |

| SUBSTANCE, PRODUCTS | FARM FEEDS | MAXIMUM CONTENT IN mg/kg (ppm) relative to a farm feed with a moisture content of 120g/kg |
|---|--|---|
| (1) | (2) | (3) |
| 8. Weed seeds and unground and uncrushed fruit containing alkaloids, glucosides or other toxic substances separately or in combination including | All farm feeds | 3 000 |
| (a) <i>Lolium temulentum</i> L, | | 1 000 |
| (b) <i>Lolium remotum</i> Schrank, | | 1 000 |
| (c) <i>Datura stramonium</i> L. | | 1 000 |
| 9. Castor oil plant - <i>Ricinus communis</i> L. | All farm feeds | 10 (expressed in terms of castor-oil plant husks) |
| 10. <i>Crotalaria</i> spp. | All animals feeds | 100 |
| 11. Aldrin singly or combined expressed as dieldrin | All farm feeds with the exception of: | 0,01 |
| | - fats | 0,02 |
| 12. Dieldrin | | |
| 13. Camphechlor (Toxaphene) | All farm feeds | 0,1 |
| 14. Chlordane (sum of cis-and trans-isomers and of oxychlordane, expressed as chlordane) | All farm feeds with the exception of: | 0,02 |
| | - fats | 0,05 |
| 15. DDT (sum of DDT- TDE and DDE-isomers, expressed as DDT) | All farm feeds with the exception of: | 0,05 |
| | - fats | 0,5 |
| 16. Endosulfan (sum of alpha- and beta-somers and of endosulfansulphate expressed as endosulfan) | All farm feeds with the exception of: | 0,1 |
| | - maize | 0,2 |
| | - oilseeds | 0,5 |
| | - complete feeds for fish | 0,005 |
| 17. Endrin (sum of endrin and delta-ketoi-endrin, expressed as endrin) | All farm feeds with the exception of: | 0,01 |
| | - fats | 0,05 |
| 18. Heptachlor (sum of heptachlor and of heptachlor-epoxide, expressed as heptachlor) | All farm feeds with the exception of: | 0,01 |
| | - fats | 0,2 |

| SUBSTANCE, PRODUCTS | FARM FEEDS | MAXIMUM CONTENT IN mg/kg (ppm) relative to a farm feed with a moisture content of 120g/kg |
|----------------------------------|---|---|
| (1) | (2) | (3) |
| 19. Hexachlorobenzene (HCB) | All farm feeds with the exception of: | 0,01 |
| | - fats | 0,2 |
| 20. Hexachlorocyclo-hexane (HCH) | All farm feeds with the exception of fat | 0.02 |
| 20.1 alpha-isomer | All farm feeds with the exception of: | 0,02 |
| | - fats | 0,2 |
| 20.2 beta-isomer | Compound farm feed with the exception of: | 0,01 |
| | - feeding stuffs for dairy cattle | 0,005 |
| | Feed ingredients with the exception of: | 0,01 |
| | - fats | 0,1 |
| 20.3 gamma-isomer | All farm feeds with the exception of: | 0,2 |
| | - fats | 2,0 |
| C. BOTANICAL IMPURITIES | | |
| 1.) | Apricots - <i>Prunus armeniaca</i> L. | |
| 2.) | Bitter almond - <i>Prunus dulcis</i> (Mill.) D.A. Webb var. <i>amara</i> (DC.) Focke (= <i>Prunus amygdalus</i> Batsch var. <i>amara</i> (DC.) Focke) | |
| 3.) | Unhusked beech mast - <i>Fagus silvatica</i> (L). | |

| SUBSTANCE, PRODUCTS | | FARM FEEDS | MAXIMUM CONTENT IN mg/kg (ppm) relative to a farm feed with a moisture content of 120g/kg |
|---------------------|--|----------------|---|
| (1) | (2) | (3) | (3) |
| 4. | Camelina - <i>Camelina sativa</i> (L.) Crantz | | |
| 5. | Mowrah, Bassia, Madhuca - <i>Madhuca longifolia</i> (L.) Macbr. (= <i>Bassia longifolia</i> L. = <i>Illipe malabroum</i> Eng1.) <i>Madhuca indica</i> Gmelin (= <i>Bassia latifolia</i> (Roxb.) = <i>Illipe latifolia</i> (Roscb.) F. Mueller) | All farm feeds | Seeds and fruit of the plant species listed opposite as well their processed derivatives may only be present in feed ingredients in trace quantities not quantitatively determinable. |
| | Purghera - <i>Jatropha curcas</i> L. | | |
| 7. | Croton - <i>Croton tiglium</i> L. | | |
| 8. | Indian mustard - <i>Brassica juncea</i> (L.) Czern. and Coss.ssp. <i>integrifolia</i> (West.) Thell. | | |
| 9. | Sareptian mustard - <i>Brassica juncea</i> (L.) Czern. and Coss.ssp. <i>juncea</i> | | |
| 10. | Chinese mustard - <i>Brassica Juncea</i> (L.) Czern and Coss. ssp. <i>Junica var lutea</i> Batelin | | |
| 11. | Black mustard - <i>Brassica nigra</i> (L.) Koch | | |
| 12. | Ethiopian mustard - <i>Brassica carinata</i> A. Braun | | |
| | Melamine | All Farm Feeds | 2.5 |

PROHIBITED INGREDIENTS

Faeces, urine as well as separated digestive tract content resulting from the emptying of removal of the digestive tract.

Hide treated with tanning substances, including its waste.

Seeds and other plant propagating materials which after harvest, have undergone specific treatment with plant protection products for their intended use (propagation), and any derived by-products.

Wood, sawdust and other materials derived from wood treated with wood protection products.

Sludge from sewage plants treating waste waters.

Solid urban waste such as household waste.

Untreated waste from eating places.

The packaging and parts of packaging or the use of products from the agri-food industry.