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Pesticide — Terminology

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In order to match with technological development and to keep continuous progress in industries, standards are subject to periodic review. Users shall ascertain that they are in possession of the latest edition

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Foreword

Rwanda Standards are prepared by Technical Committees and approved by Rwanda Standards Board (RSB) Board of Directors in accordance with the procedures of RSB, in compliance with Annex 3 of the WTO/TBT agreement on the preparation, adoption and application of standards.

The main task of technical committees is to prepare national standards. Final Draft Rwanda Standards adopted by Technical committees are ratified by members of RSB Board of Directors for publication and gazettment as Rwanda Standards.

DRS 406 was prepared by Technical Committee RSB/TC 024, *Chemicals and consumer Products*.

In the preparation of this standard, reference was made to the following standard:

ES 693: Pesticides – Terminology

The assistance derived from the above source is hereby acknowledged with thanks.

Committee membership

The following organizations were represented on the Technical Committee on Chemicals and Consumer Products (RSB/TC 024) in the preparation of this standard.

Star Construction and Consultancy (SCC) Ltd

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University of Rwanda/College of Education

AGROPY Ltd

Rwanda Standards Board (RSB) – Secretariat

Pesticides — Terminology

1 Scope

This Draft Rwanda Standard defines the fundamental terms used in pesticides and related products.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

There are no normative references in this document.

3 Terminology

3.1

abrasiveness

measure of wear of a surface by moving solids

3.2

acaricide

chemical used for killing mites and thicks (acarina) as distinct from insects

3.3

acarina

mites and ticks

3.4

acid equivalent

the total organic acid content expressed in terms of the active acid

3.5

active ingredient

the biologically active part of the pesticide formulation

3.6

additive

any substance added to the active ingredient to improve its performance

3.7

adjuvant

see formulant

3.8

aerosol

a dispersion of liquid particles, the majority of which are between 0.1 and 0.5 µm diameter, in air or other gas.

3.9

aerosol dispensers

a device which dispenses an aerosol

3.10

agglomerate (see also granule, pellet, rod, tablet)

particles bound firmly together (see lump)

NOTE 1: This covers coated or impregnated or particles.

3.11

aggregate

particles adhering loosely together (see lump)

3.12

arboricide

a chemical for killing trees and shrubs

3.13

avicide

a chemical for killing birds

3.14

bactericide

a chemical for killing bacteria

3.15

batch

the material produced in a single series of operations by a non-continuous process

3.16

biological compatibility

a mixture of chemicals (formulations) which, under defined conditions, retains the activity claimed for each separately and does not have any unwanted biological effect when used.

3.17

blend

a homogeneous mixture of two or more batches

3.18

bridging

formulation of arches of keyed, or jammed material, impending the flow of particles

3.19

brush killer

a chemical for killing brush wood

3.20

bulk density

see density

3.21

carrier or filler

an inert formulant added to facilitate uniform distribution of a formulation when used

3.22

chemical compatibility

no appreciable unwanted chemical reaction between one chemical and/or formulation and another

3.23

chlorosis

reduction in green chlorophyll content resulting in yellowing of leaves

3.24

classification of powders

separation of the particles of a powder based on physical characteristics

3.25

compatible chemicals

chemicals (including formulations, etc; note 2) which are chemically, physically and biologically compatible

NOTE 2: Corrosion of the containers by a product and/or the container affecting the product adversely are special aspects of incompatibility.

3.26

compatibility agent

a substance which improves compatibility

3.27

contact herbicide

a herbicide toxic to the treated parts of the plant

3.28

cream (of emulsions)

any creamy layer that separates at the top or bottom of an emulsion

3.29

defoliant

a chemical which causes leaf fall

3.30

density

the mass of substance occupying unit volume at a stated temperature (note 3)

NOTE 3: When reporting the density of a solid or liquid the units of mass and volume used must all be explicitly stated, e.g. grams per millilitre at t ºC (d). Unless otherwise stated density shall refer to mass in grams per millilitre at 20 ºC.

3.31

density, bulk (of a powder)

density determined under stated conditions of free pouring

3.32

density, tap (of a powder)

density determined under compaction caused by tapping without additional pressure

3.33

desiccant (of crops)

a chemical for dehydrating foliage of plants

3.34

dispersible powder

a powder intended for dispersion in a liquid

3.35

water dispersible powder

a fine powder for dispersing in water

3.36

oil dispersible powder

a fine powder for dispersing in oil

3.37

dispersibility

the ease with which a substance is dispersed uniformly in a fluid

3.38

dormant spray

a spray applied to dormant plants

3.39

dressing seed

the process of treating seeds with pesticides

3.40

dust

a fine powder, usually airborne, which can settle

3.41

dust concentrate

a powder intended for further formulation before use as a dustable powder

3.42

dustable powder fine (note 6)

a powder of particles smaller than 45 µm in diameter intended for dry application

3.43

coarse (note 4)

a powder of particles betwees 45 and 90 µm diameter intended for dry application

NOTE 4: It is proposed that, in normal cases of materials of mixed particle sizes, the classification should refer to the major proportion by weight falling within the specified size range.

3.44

emulsifiable concentrate

a solution which forms an emulsion on mixing with water

3.45

emulsion

the mixture of water and a liquid in which the liquid is dispersed in water

3.46

invert emulsion

an emulsion of water in oil

3.47

epinasty

curling of leaves downwards

3.48

eradicant

a pesticide which will eradicate pests

3.49

extractable acids

total organic acids extractable from a formulation (note 5)

NOTE 5: After conversion, where necessary, of a salt, amine, ester, etc, to the parent acids.

3.50

filler

see carrier

3.51

fines

solid particles smaller than a specified size

3.52

flammable

readily ignitable. See highly flammable liquid

3.53

flammable liquid

a liquid of flash point of 21 ºC or more bur less than 55 ºC (note 6)

NOTE 6: An EC Directive on Classification and labelling of Dangerous Substances, which includes a number of pure substances marketed as pesticides, has been adopted. There is also a Directive in draft on labelling of pesticide formulations. In both these documents the definitions of highly flammable and flammable liquids are those given above.

3.54

flash point

the lowest temperature at which a material forms a flammable vapour/air mixture under standards conditions

3.55

flocculation

joining together of particles in suspension

3.56

flowability of solids

ability to flow under stated conditions

3.57

formulant

any added material in a formulation other than the biologically active ingredients (s)

3.58

formulation

active ingredient(s) plus formulant(s)

3.59

friability of solids

the crumbling properties of solids

3.60

fumigant

a material volatilized in air for the control of pests and/or diseases

3.61

fungicide

a chemical for killing fungal spores and/or mycelium

3.62

fungistat

a chemical which inhibits the growth of fungi without killing them

3.63

granules

agglomerates, or coated or impregnated lumps, or particles defined by size

3.64

grindability

the ease with which a material may be broken down by mechanical means

3.65

grit

hard non-friable particles present in a material

3.66

plant growth regulator

a chemical for regulating plant growth

3.67

haulm killer

a chemical for killing off plant tops to facilitate harvest

3.68

herbicide

a chemical for killing weeds

3.69

highly flammable liquid

a liquid of flash point less than 21 ºC (note 7). See also flammable liquid

NOTE 7: An EC Directive on classification and Labelling of Dangerous Substances, which includes a number of pure substances marketed as pesticides, has been adopted. There is also a Directive in draft on labelling of pesticide formulations. In both these documents the definitions of highly flammable liquids are those given above.

3.70

Incompatible substances

substances whose useful properties are adversely affected when mixed together (see compatible substances)

3.71

inflammable

synonym for flammable (cf)

3.72

insecticide

a chemical for killing insects

3.73

Invert emulsion

see emulsion

3.74

LD_{50}

the lethal dosage that kills 50% of the test organisms

3.75

lump

mass of solid matter without regular shape

3.76

molluscicide

a chemical for killing slugs and snails

3.77

nematicide

a chemical for killing nematodes, e.g.: eelworms

3.78

non-flammable

not readily ignitable, e.g. with a flash point over 55 ºC

3.79

oversize

particles of a solid material larger than a specified size

3.80

ovicide

a chemical for killing eggs

3.81

pellet

an agglomerate which is approximately spherical, avoid or cylindrical with no dimension less than 2 mm

3.82

pest

any animal (or) plant causing harm or damage to man, his animals, or his plants

3.83

pesticide

a chemical for killing pests

3.84

physical compatibility

a mixture of chemicals (including formulations) which under defined conditions, has satisfactory physical properties for the intended use

3.85

phytotoxicity

chemical damage to a plant

3.86

post-emergence herbicide

a selective herbicide applied after the crop emerges

3.87

powder (note 8)

solid particles up to 250 µm in diameter (not an agglomerate q.v)

NOTE 8: It is proposed that, in normal cases of materials of mixed particle sizes, the classification should refer to the major proportion by weight falling within the specified size range.

3.88

pour point

the minimum temperature at which a material will flow under specified conditions

3.89

pre-emergence herbicide

a selective herbicide applied after the crop is sown but before it emerges

3.90

prill

a spherical solidified droplet formed by rapid cooling of an anhydrous molten mixture

3.91

protectant

a substance which protects the surface of an organism against infection or infestation

3.92

rain fastness

the proportion of a pesticide residue remaining on a treated surface after exposure to a specified spray of water

3.93

repeat treatment

a treatment which follows an identical treatment on the same site

3.94

rod

a cylindrical agglomerate, minimum diameter 1.5 mm, length greater than its diameter

3.95

run-off

the quantity of spray which runs off a unit area of plant surface

3.96

sedimentation

fall of particles in a continuous medium

3.97

seed dressing

see dressing seed

3.98

seed treatment (formerly seed dressing cf)

the process of coating or impregnating seeds with a pesticide

3.99

Sequential treatment

a treatment followed by any other on the same site (c/f repeat treatment)

3.100

sieving

separation of particles in accordance with their size by sieves

3.101

size distribution

the distribution of the particles of a solid material amongst a given series of size ranges

3.102

size fraction

portion of a material between two given size limits expressed in terms of weight, volume, or numerical frequency

3.103

size range

lower and upper limits in size of a solid

3.104

smoke

a visible cloud of airborne particles (1 to 5 µm) which is generated by combustion or heat

3.105

soil-acting herbicide

a herbicide applied to the soil to control weeds

3.106

soil sterilant

a pesticide applied to the soil to kill soil flora and fauna

3.107

solution

a single phase liquid system (note 9)

NOTE 9: This is fully miscible with water when intended for aqueous dilution.

3.108

spray

to apply a liquid in the form of droplets suspended in air

3.109

coarse spray

a dispersion of drops of mass volume diameter (note 10) over 500 µm

NOTE 10: Mass volume diameter (m.v.d) has been used in preference to mass median diameter (m.m.d.). The diference will be negligible unless evaporation is significant, but in practice it is the m.v.d. which is measured.

3.110

medium spray

a dispersion of drops of 200 to 500 µm mass volume diameter

3.111

fine spray

a dispersion of drops 100 to 200 µm mass volume diameter

3.112

very fine spray

a dispersion of drops 30 to 100 µm mass volume diameter

3.113

aerosol

a dispersion of drops below 30 µm mass volume diameter

3.114

spray concentrate

an undiluted preparation

Terms (note 11)	Bushes and trees l/ha (litre oer hectar)	Ground crops l/ha (litre per hectar)
High volume spray	More than 1000	More than 700
Medium volume spray	500 to 1000	200 to 700
Low volume spray	200 to 500	50 to 200
Very low volume spray	20 to 200	5 to 50
Ultra low volume spray	Less than 20	Less than 5

NOTE 11: These definitions are based on suggestions originally made by Dr. Johnstone of the Ministry of Overseas Development, Centre for Over Seas Pest Research and Subsequently modified by EPPO (European Plant Protection organization). Only a rough guideline can be given since the exact volume necessary in particular crops depends on growth stage and development, as well as the specific properties of the pesticide being applied and the application equipment available. The volume may be exceeded in certain cases.

3.115

sticker

a material, which increase the retention of a product, applied to a surface

3.116

surfactant

a material for reducing inter-facial tension

3.117

suspensibility

the amount of solid, which retains suspended after a given time in a column of a specified liquid, of stated height, under specified conditions (note 12)

NOTE 12: It is expressed as a percentage of the amount of active ingredient (and/or carrier) in the original suspension.

3.118

suspension concentrate

a stable suspension of active ingredients in a fluid intended for dilution before use)

3.119

synergist

a chemical with relatively low biological activity which significantly increases the biological activity of another active ingredient

3.120

systematic (pesticide)

a (pesticide, etc.) which, when applied to an organism, moves internally within it to produce the desired activity. (see translocated herbicides)

NOTE 13: Other terms can be used instead of pesticide, e.g., fungicide.

3.121

tablets

agglomerates of uniform shape and dimensions, usually circular, with either flat or curved faces, the distance between faces being less than the diameter

3.122

tank mix

the mixing by the operator of chemicals (and/or formulations) in the spray tank

3.123

Tape density

see density

3.124

technical material

the unformulated active ingredient

3.125

tolerance

permitted limits of variation from a given value

3.126

total herbicide

a herbicide used in such a way as to kill all vegetation

3.127

translocated herbicide

a herbicide which, when absorbed by a plant, moves within it (see systemic pesticide)

3.128

undersize

particles smaller than a specified size

3.129

water-soluble powder

a powder readily soluble in water at the recommended concentration for use

NOTE 14: There may be a small amount of insoluble material.

3.130

wettable powder

see dispersible powder

3.131

wetter or wetting agent

a chemical which improves wetting properties of a chemical or formulation

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