
SUBDUE

**1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY/
UNDERTAKING**

1.1 Product Identifier

Product Name : SUBDUE
Design Code : A13947A

1.2 Relevant Identified Uses of the substance or mixture and uses advised against

Use : Fungicide

1.3 Details of the supplier of the safety data sheet

Company : Syngenta UK Ltd
: CPC4, Capital Park, Fulbourn, Cambridge, CB21 5XE

Phone : (01223) 883400

Fax : (01223) 882195

Website : www.syngenta.co.uk

1.4 Emergency telephone number

Emergency phone No. : +44 (0) 1484 538444 (24h)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EU) 1272/2008

Acute toxicity (Oral)	Category 4	H302
Chronic aquatic toxicity	Category 3	H412
Eye irritation	Category 2	H319


For the full text of the H-Statements mentioned in this Section, see Section 16.

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Xn	Harmful
R22	Harmful if swallowed
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

2.2 Label elements


Labelling: Regulation (EC) No. 1272/2008

Hazard pictograms		
		
Signal Word	: Warning	
Hazard Statements	:H302 :H319 :H412	Harmful if swallowed Causes serious eye irritation Harmful to aquatic life with long lasting effects
Precautions Statements	:P102 :P270 :P280 :P301/P312 :P305/P351/P338 :P391	Keep out of reach of children Do not eat, drink or smoke when using this product Wear protective gloves/protective clothing/eye protection/face protection IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Collect spillage
Supplemental Information	:EUH401	To avoid risks to human health and the environment comply with the instructions for use.

Hazardous components which must be listed on the label:

- metalaxyl-M

Labelling: EU Directives 67/548/EEC or 1999/45/EC

Symbol(s)		
		
Harmful R-phrases(s)	:R22 :R52/53	Harmful if swallowed Harmful to aquatic organisms, may cause long term adverse effects in the aquatic environment.
S-phrases(s)	:S2 :S13 :S20/21 :S35 :S57	Keep out of the reach of children. Keep away from food, drink and animal feedingstuffs. When using do not eat, drink or smoke. This material and its container must be disposed of in a safe way. Use appropriate containment to avoid environmental contamination. Use appropriate containment to avoid environmental contamination.
Special labelling of certain mixtures	To avoid risks to man and the environment, comply with instructions for use.	

Hazardous components which must be listed on the label:

- metalaxyl-M

2.3 Other hazards

None known

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.2 Mixtures

Hazardous Component(s)

Chemical Name	CAS No. EC No. Registration Number	Classification (67/548/EEC)	Classification (REGULATION (EC) No. 1272/2008)	Concentration
metalaxyl-M	70630-17-0	Xn R22 R41	Acute Tox.4; H302 Eye Dam.1; H318	45.2 % w/w
propane-1,2-diol	57-55-6 200-338-0	-	-	20 – 30 % w/w
acetophenone	98-86-2 202-708-7	Xn R22 R36	Acute Tox.4; H302 Eye Irrit.2; H319	10 – 20 % w/w
Dodecylbenzene sulphonic acid	27176-87-0 68584-22-5 287-494-3	C R22 R35	Acute Tox.4; H302 Skin Corr.1A; H314	1 – 5 % w/w
Amines, tallow alkyl, ethoxylated	61791-26-2	C R34	Skin Corr.1B; H314	1 – 5 % w/w
Heptan-2-one	110-43-0 203-767-1	Xn R10 R20/22	Flam. Liq.3; H226 Acute Tox.4; H302 Acute Tox.4; H332	1 – 5 % w/w

Substances for which there are Community workplace exposure limits

For the full text of the R-phrases mentioned in this Section, see Section 16.

For the full text of the H-statements mentioned in this Section, see Section 16.

4. FIRST-AID MEASURES

4.1 Description of first aid measures

- General Advice : Have the product container, label or Material Safety Data Sheet with you when calling the Syngenta emergency number, a poison control centre or physician, or going for treatment.
- Inhalation : Move the victim to fresh air. If breathing is irregular or stopped, administer artificial respiration. Keep patient warm and at rest. Call a physician or Poison Control Centre immediately.
- Skin Contact : Take off all contaminated clothing immediately. Wash off immediately with plenty of water. If skin irritation persists, call a physician. Wash contaminated clothing before re-use.
- Eye Contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Immediate medical attention is required.
- Ingestion : If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : No information available

4.3 Indication of any immediate medical attention and special treatment needed

Medical advice : There is no specific antidote available. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Extinguishing media - small fires

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Extinguishing media - large fires

Use alcohol-resistant foam or water spray.
Do not use a solid water stream as it may scatter and spread fire.

5.2 Special hazards arising from the substance or mixture

As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10). Exposure to decomposition products may be a hazard to health.

5.3 Advice for fire-fighters: Wear full protective clothing and self-contained breathing apparatus. Do not allow run-off from fire fighting to enter drains or water courses. Cool closed containers exposed to fire with water spray.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Refer to protective measures listed in sections 7 and 8.

6.2 Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system.

6.3 Methods and materials for containment and cleaning up: Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). If the product contaminates rivers and lakes or drains inform respective authorities.

6.4 Reference to other sections

Refer to protective measures listed in sections 7 and 8
Refer to disposal considerations listed in section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

No special protective measures against fire required. Avoid contact with skin and eyes. When using, do not eat, drink or smoke. For personal protection see section 8.

7.2 Conditions for safe storage, including any incompatibilities

No special storage conditions required. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from food, drink and animal feeding stuffs.

7.3 Specific end uses

Registered Crop Protection products: For proper and safe use of this product, please refer to the approval conditions laid down on the product label.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Components	Exposure limit(s)	Type of exposure limit	Source
metalaxyl-M	10 mg/m ³	8 h TWA	SYNGENTA
Propane-1,2-diol	10 mg/m ³ (particulates) 150 ppm, 470 mg/m ³ (Total(vapour and particulates))	8 h TWA 8 h TWA	UK HSE UK HSE
Heptan-2-one	50 ppm, 237 mg/m ³ (Skin) 100 ppm, 475 mg/m ³ (skin) 50 ppm, 238 mg/m ³ (skin) 100ppm, 475 mg/m ³	8 h TWA 15 min STEL 8 h TWA 15 min STEL	UK HSE UK HSE IOELV IOELV

The following recommendations for exposure controls/personal protection are intended for the manufacture, formulation and packaging of the product.

8.2 Exposure controls

- Engineering Measures : Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated. The extent of these protection measures depends on the actual risks in use. If airborne mist or vapours are generated, use local exhaust ventilation controls. Assess exposure and use any additional measures to keep airborne levels below any relevant exposure limit. Where necessary, seek additional occupational hygiene advice.
- Protective measures : The use of technical measures should always have priority over the use of personal protective equipment. When selecting personal protective equipment, seek appropriate professional advice. Personal protective equipment should be certified to appropriate standards.
- Respiratory protection : No personal respiratory protective equipment normally required. A particulate filter respirator may be necessary until effective technical measures are installed.
- Hand protection : Chemical resistant gloves are not usually required. Select gloves based on the physical job requirements.
- Eye Protection : Eye protection is not usually required. Follow any site specific eye protection policies.
- Skin and body protection : No special protective equipment required. Select skin and body protection based on the physical job requirements.
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9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

- Physical State** : Liquid
Form : Liquid
Colour : Yellow to orange
Odour : Like ketone
Odour Threshold : No data available
pH : 6 – 10 at 1 % w/v
Melting point/range : No data available
Boiling point/boiling range : No data available
Flash point : 80 °C at 767 mm Hg
Evaporation rate : No data available
Flammability (solid, gas) : No data available
Lower explosion limit : No data available
Upper explosion limit : No data available
Vapour pressure : No data available
Relative vapour density : No data available
Density : 1.06 g/cm³ at 20 °C
Solubility in other solvents : No data available
Partition Coefficient : No data available
n-octanol/water
Autoignition temperature : No data available
Thermal decomposition : No data available
Viscosity, dynamic : 21.0 mPa.s at 40 °C
50.2 mPa.s at 20 °C
Viscosity, kinematic : No data available
Explosive properties : Not explosive
Oxidizing properties : Not oxidising

9.2 Other Information

Miscibility	: miscible
Surface tension	: 35.1 mN/m at 20 °C

10. STABILITY AND REACTIVITY

10.1	Reactivity	: No information available
10.2	Chemical Stability	: No information available
10.3	Possibility of hazardous reactions	: None known. Hazardous polymerisation does not occur.
10.4	Conditions to avoid	: No information available
10.5	Incompatible materials	: No information available
10.6	Hazardous decomposition products	: Combustion or thermal decomposition will evolve toxic and irritant vapours.

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity	: LD50 female rat, 550 mg/kg
Acute inhalational toxicity	: LC50 rat, > 5.58 mg/l, 4 h
Acute dermal toxicity	: LD50 rat, > 2,000 mg/kg
Skin corrosion/irritation	: Rabbit: non-irritating
Serious eye damage/eye irritation	: Rabbit: non-irritating
Respiratory or skin sensitisation	: Guinea pig: not sensitising
Germ cell mutagenicity metalaxyl-M	: Did not show mutagenic effects in animal experiments.
Carcinogenicity metalaxyl-M	: Did not show carcinogenic effects in animal experiments.
Teratogenicity metalaxyl-M	: Did not show teratogenic effects in animal experiments.
Reproductive toxicity metalaxyl-M	: Did not show reproductive toxicity effects in animal experiments.
STOT – repeated exposure metalaxyl-M	: No adverse effect has been observed in chronic toxicity tests.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish	: LC50 <i>Oncorhynchus mykiss</i> (rainbow trout), 15 mg/l, 96 h
Toxicity to aquatic invertebrates	: EC50 <i>Daphnia magna</i> (water flea), 61 mg/l, 48 h
Toxicity to aquatic plants	: EbC50 <i>Pseudokirchneriella subcapitata</i> (green algae), 19 mg/l, 72 h ErC50 <i>Pseudokirchneriella subcapitata</i> (green algae), 39 mg/l, 72 h Based on test results with similar product.

12.2 Persistence and degradability

Stability in water metalaxyl-M	: Degradation half life: 22.4 – 47.5 d Not persistent in water
Stability in soil metalaxyl-M	: Degradation half life: < 50 d Not persistent in soil

12.3 Bioaccumulative potential

: metalaxyl-M has low potential for bioaccumulation.

12.4 Mobility in soil

: metalaxyl-M has a range from very low to very high mobility in soil depending on soil type.

12.5 Results of PBT and vPvB assessment

metalaxyl-M : This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).
This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

12.6 Other adverse effects

None known

13.DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product : Do not contaminate ponds, waterways or ditches with chemical or used container. Do not dispose of waste into sewer. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations.

Contaminated packaging : Empty remaining contents. Triple rinse containers. Empty containers should be taken for local recycling or waste disposal. Do not re-use empty containers.

14.TRANSPORT INFORMATION

Land transport (ADR/RID)

14.1	UN Number	:	Not dangerous goods
14.2	UN proper shipping name	:	Not applicable
14.3	Transport hazard class(es)	:	Not applicable
14.4	Packing Group	;	Not applicable
Labels		:	Not applicable
14.5	Environmental hazards	:	Not applicable

Sea transport (IMDG)

14.1	UN Number	:	Not dangerous goods
14.2	UN proper shipping name	:	Not applicable
14.3	Transport hazard class(es)	:	Not applicable
14.4	Packing Group	;	Not applicable
Labels		:	Not applicable
14.5	Environmental hazards	:	Not applicable

Air transport (IATA-DGR)


14.1	UN Number	:	Not dangerous goods
14.2	UN proper shipping name	:	Not applicable
14.3	Transport hazard class(es)	:	Not applicable
14.4	Packing Group	;	Not applicable
Labels		:	Not applicable
14.6	Special precautions for user	:	none

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulation/legislation specific for the substance or mixture

Hazard pictograms		
		
Signal Word	: Warning	
Hazard Statements	:H302 :H319 :H412	Harmful if swallowed Causes serious eye irritation Harmful to aquatic life with long lasting effects
Precautions Statements	:P102 :P270 :P280 :P301/P312 :P305/P351/P338 :P391	Keep out of reach of children Do not eat, drink or smoke when using this product Wear protective gloves/protective clothing/eye protection/face protection IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Collect spillage
Supplemental Information	:EUH401	To avoid risks to human health and the environment comply with the instructions for use.

Hazardous components which must be listed on the label:

- metalaxyl-M

15.2 Chemical Safety Assessment

A chemical safety assessment is not required for this substance.

16. OTHER INFORMATION

Approval number, MAPP 12503.

Use plant protection products safely. Always read the label and product information before use.
Based upon SDS release dated 03/11/201, version 3 with local amendment.

Full text of R phrases referred to under Section 2 and 3:

R10	Flammable
R20/22	Harmful by inhalation and if swallowed
R22	Harmful if swallowed
R34	Causes burns
R35	Causes severe burns
R36	Irritating to eyes
R41	Risk of serious damage to eyes

Full text of H-statements referred to under sections 2 and 3:

H226	Flammable liquid and vapour
H302	Harmful if swallowed

H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H319	Causes serious eye irritation
H332	Harmful if inhaled
H412	Harmful to aquatic life with long lasting effects

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.