

REVUS

Version 5 - This version replaces all previous versions.

Revision Date 14.04.2015

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

1.1 Product identifier

Product name : REVUS

Design code : A12946B

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 Limited
CPC4, Capital Park
Fulbourn
Cambridge
CB21 5XE

Telephone : (01223) 883400

Telefax : (01223) 882195

Website : www.syngenta.co.uk

1.4 Emergency telephone number

: +44 1484 538444

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EU) 1272/2008

Chronic aquatic toxicity Category 2 H411

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

2.2 Label elements

Labelling: Regulation (EC) No. 1272/2008

Hazard pictograms

Hazard Pictograms



Hazard Statements	:H411	Toxic to aquatic life with long lasting effects
Precautions Statements	:P273 :P391 :P501	Avoid release to the environment Collect spillage Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed for as non-hazardous waste.
Supplemental Information	:EUH401	To avoid risks to human health and the environment comply with the instructions for use.

REVUS

Version 5 - This version replaces all previous versions.

Revision Date 14.04.2015

:EUH208 Contains 1,2-benzisothiazol-3-one. May produce an allergic reaction.
--

Hazardous components which must be listed on the label:

2.3 Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Hazardous components

Chemical Name	CAS No. EC No. Registration Number	Classification (REGULATION (EC) No. 1272/2008)	Concentration
mandipropamid	374726-62-2	Aquatic Acute1; H400 Aquatic Chronic1; H410	23.3% w/w
Naphthalenesulfonic acid, dimethyl-polymer with formaldehyde and methyl-naphthalenesulfonic acid, sodium salt	9008-63-3	Eye Irrit.2; H319 Skin Irrit.2; H315	1 – 5 % w/w
Propane-1,2-diol	57-55-6 200-338-0	-	5 – 10% w/w

Substances for which there are Community workplace exposure limits.

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

SECTION 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.

SECTION 5. FIREFIGHTING MEASURES

5.1

Extinguishing media

Extinguishing media - small fires

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

Extinguishing media - large fires

REVUS

Version 5 - This version replaces all previous versions.

Revision Date 14.04.2015

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.

SECTION 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 spillage, and then collect 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.

SECTION 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 feedingstuffs.
- 7.3 Specific end use(s)**
Registered Crop Protection products: For proper and safe use of this product, please refer to the approval conditions laid down on the product label.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components	Exposure limit(s)	Type of exposure limit	Source

REVUS

Version 5 - This version replaces all previous versions.

Revision Date 14.04.2015

propane-1,2-diol	10 mg/m ³ (Particulates) 150 ppm, 470 mg/m ³ (Total (vapour & particulates))	8 h TWA 8 h TWA	UK HSE UK HSE
mandipropamid	10 mg/m ³	8 h TWA	SYNGENTA

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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

- Physical State** : Liquid
- Form** : Suspension
- Colour** : Off-white to brownish
- Odour** : Characteristic
- Odour Threshold** : No data available
- pH** : 5 – 9 at 1 % w/v
- Melting point/range** : No data available
- Boiling point/boiling range** : No data available
- Flash point** : >101 °C at 100.3 kPa Pensky-Martens c.c.
- 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** : 1.072 g/cm³
- Solubility in other solvents** : No data available
- Partition Coefficient** : No data available
- n-octanol/water**

REVUS

Version 5 - This version replaces all previous versions.

Revision Date 14.04.2015

Autoignition temperature	: >480 °C
Thermal decomposition	: No data available
Viscosity, dynamic	: 45.0 – 338 mPa.s at 40 °C 56.2 – 424 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	: 36.4 mN/m at 20 °C

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity	: See Section 10.3 "Possibility of hazardous reactions"
10.2 Chemical Stability	: The product is stable when used in normal conditions
10.3 Possibility of hazardous reactions	: No hazardous reactions by normal handling and storage according to provisions.
10.4 Conditions to avoid	: No decomposition if used as directed.
10.5 Incompatible materials	: No substances are known which lead to the formation of hazardous substances or thermal reactions.
10.6 Hazardous decomposition products	: Combustion or thermal decomposition will evolve toxic and irritant vapours.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute oral toxicity	: LD50 female rat, > 5,000 mg/kg
Acute inhalational toxicity	: LC50 male and female rat, >4.89 mg/l, 4 h
Acute dermal toxicity	: LD50 male and female rat, > 5,000 mg/kg
Skin corrosion/irritation	: Rabbit: Slightly irritating
Serious eye damage/eye irritation	: Rabbit: Mildly irritating
Respiratory or skin sensitisation	: Buehler test guinea pig: Not a skin sensitiser in animals
Germ cell mutagenicity	:
mandipropamid	: Did not show mutagenic effects in animal experiments.
Carcinogenicity	:
mandipropamid	: Did not show carcinogenic effects in animal experiments.
Teratogenicity	:
mandipropamid	: Did not show teratogenic effects in animal experiments.
Reproductive toxicity	:
mandipropamid	: Did not show reproductive toxicity effects in animal experiments.
STOT – repeated exposure	:
mandipropamid	: No adverse effect has been observed in chronic toxicity tests.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish	: LC50 <i>Oncorhynchus mykiss</i> (rainbow trout), > 100 mg/l, 96 h LC50 <i>Cyprinus carpio</i> (Carp), > 100 mg/l, 96 h
Toxicity to aquatic	: EC50 <i>Daphnia magna</i> (water flea), > 100 mg/l, 48 h

REVUS

Version 5 - This version replaces all previous versions.

Revision Date 14.04.2015

invertebrates

Toxicity to aquatic plants : ErC50 *Pseudokirchneriella subcapitata* (green algae), > 100 mg/l, 72 h
EbC50 *Pseudokirchneriella subcapitata* (green algae), 15.3 mg/l, 72 h

12.2 Persistence and degradability

Biodegradability :
Mandipropamid : Not readily biodegradable
Stability in water :
Mandipropamid : Degradation half life: 4.5 - 26 d. Not persistent in water
Stability in soil :
Mandipropamid : Degradation half life: 26 - 178 d. Not persistent in soil

12.3 Bioaccumulative potential

Mandipropamid : Low potential for bioaccumulation.

12.4 Mobility in soil

Mandipropamid : Low mobility in soil.

12.5 Results of PBT and vPvB assessment

Mandipropamid : Mandipropamid is not considered to be persistent, bioaccumulating nor toxic (PBT).
Mandipropamid is not considered to be very persistent nor very bioaccumulating (vPvB).

12.6 Other adverse effects

Other information : Classification of the product is based on the summation of the concentrations of classified components.

SECTION 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.

SECTION 14. TRANSPORT INFORMATION

Land transport (ADR/RID)

14.1	UN Number	:	UN 3082
14.2	UN proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (MANDIPROPAMID)
14.3	Transport hazard class(es)	:	9
14.4	Packing Group	;	III
Labels		:	9
14.5	Environmental hazards	:	Environmentally hazardous
	Tunnel restriction code	:	E

Sea transport(IMDG)

14.1	UN Number	:	UN 3082
14.2	UN proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (MANDIPROPAMID)

REVUS

Version 5 - This version replaces all previous versions.

Revision Date 14.04.2015

14.3	Transport hazard class(es)	:	9
14.4	Packing Group	;	III
Labels		:	9
14.5	Environmental hazards	:	Marine pollutant

Air transport (IATA-DGR)

14.1	UN Number	:	UN 3082
14.2	UN proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (MANDIPROPAMID)
14.3	Transport hazard class(es)	:	9
14.4	Packing Group	;	III
Labels		:	9
14.6	Special precautions for user	:	none

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

not applicable

SECTION 15. REGULATORY INFORMATION

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

GHS-Labeling

Hazard Pictograms



Hazard Statements	:H411	Toxic to aquatic life with long lasting effects
Precautions Statements	:P273	Avoid release to the environment
	:P391	Collect spillage
	:P501	Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed for as non-hazardous waste.
Supplemental Information	:EUH401	To avoid risks to human health and the environment comply with the instructions for use.
	:EUH208	Contains 1,2-benzisothiazol-3-one. May produce an allergic reaction.

15.2 Chemical Safety Assessment

A Chemical Safety Assessment is not required for this substance.

SECTION 16. OTHER INFORMATION

Further information

Approval number, MAPP 13484; PCS No. 02789.

Use plant protection products safely. Always read the label and product information before use.

Based upon SDS release dated 14/04/2015, version 5 with local amendment. Full text of R-phrases referred to under sections 2 and 3:

Full text of H-Statements referred to under sections 2 and 3.

REVUS

Version 5 - This version replaces all previous versions.

Revision Date 14.04.2015

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic 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 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.

This version replaces all previous versions. Product names are a trademark or registered trademark of a Syngenta Group Company.
