

**Syngenta Crop Protection, LLC**  
**Post Office Box 18300**  
**Greensboro, NC 27419**

**In Case of Emergency, Call**  
**1-800-888-8372**

**1. PRODUCT IDENTIFICATION**

Product Name:	<b>REVUS</b>	Product No.:	A12946B
EPA Signal Word:	Not Applicable		
Active Ingredient(%):	Mandipropamid (23.3%)	CAS No.:	374726-62-2
Chemical Name:	2-(4-chloro-phenyl)-N-[2-(3-methoxy-4-prop-2-ynyloxy-phenyl)-ethyl]-2-prop-2-ynyloxy-acetamide		
Chemical Class:	Fungicide		
EPA Registration Number(s):	100-1254	<b>Section(s) Revised:</b>	<b>1</b>

**2. HAZARDS IDENTIFICATION**
Health and Environmental

Presents a low hazard during normal handling.

Hazardous Decomposition Products

Not Available

Physical Properties

Appearance: Off-white to white liquid

Odor: Not particular

Unusual Fire, Explosion and Reactivity Hazards

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Material	OSHA PEL	ACGIH TLV	Other	NTP/IARC/OSHA Carcinogen
Propylene Glycol	Not Established	Not Established	10 mg/m <sup>3</sup> TWA ****	No
Mandipropamid (23.3%)	Not Established	Not Established	10 mg/m <sup>3</sup> TWA ***	No

\*\*\* Syngenta Occupational Exposure Limit (OEL)

\*\*\*\* Recommended by AIHA (American Industrial Hygiene Association)

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

Syngenta Hazard Category: B

**4. FIRST AID MEASURES**

Have the product container, label or Safety Data Sheet with you when calling Syngenta (800-888-8372), a poison control center or doctor, or going for treatment.

Ingestion: If swallowed: Call Syngenta (800-888-8372), a poison control center or doctor immediately for treatment advice. Have the person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so after calling 800-888-8372 or by a poison control center or doctor. Do not give anything by mouth to an

unconscious person.

- Eye Contact: If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call Syngenta (800-888-8372), a poison control center or doctor for treatment advice.
- Skin Contact: If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call Syngenta (800-888-8372), a poison control center or doctor for treatment advice.
- Inhalation: If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call Syngenta (800-888-8372), a poison control center or doctor for further treatment advice.

#### Notes to Physician

There is no specific antidote if this product is ingested.

Treat symptomatically.

#### Medical Condition Likely to be Aggravated by Exposure

Not Available

## **5. FIRE FIGHTING MEASURES**

### Fire and Explosion

- Flash Point (Test Method): > 214°F (Pensky-Martens CC)
- Flammable Limits (% in Air): Lower: Not Applicable Upper: Not Applicable
- Autoignition Temperature: Not Available
- Flammability: Not Applicable

### Unusual Fire, Explosion and Reactivity Hazards

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

### In Case of Fire

Use dry chemical, foam or CO2 extinguishing media. Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion. Prevent use of contaminated buildings, area, and equipment until decontaminated. Water runoff can cause environmental damage. If water is used to fight fire, dike and collect runoff.

## **6. ACCIDENTAL RELEASE MEASURES**

### In Case of Spill or Leak

Control the spill at its source. Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions outlined in Section 8. Cover entire spill with absorbing material and place into compatible disposal container. Scrub area with hard water detergent (e.g. commercial products such as Tide, Joy, Spic and Span). Pick up wash liquid with additional absorbent and place into compatible disposal container. Once all material is cleaned up and placed in a disposal container, seal container and arrange for disposition.

## **7. HANDLING AND STORAGE**

Store the material in a well-ventilated, secure area out of reach of children and domestic animals. Do not store food, beverages or tobacco products in the storage area. Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION AND PACKAGING OF THIS PRODUCT.**

**FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.**

- Ingestion: Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

Eye Contact: Where eye contact is likely, use chemical splash goggles.  
Skin Contact: Where contact is likely, wear chemical-resistant gloves (such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, polyvinyl chloride [PVC] or Viton), coveralls, socks and chemical-resistant footwear.  
Inhalation: A respirator is not normally required when handling this substance. In case of emergency spills, use a NIOSH approved respirator with any N, R, P or HE filter.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Off-white to white liquid  
Odor: Not particular  
Melting Point: Not Available  
Boiling Point: Not Available  
Specific Gravity/Density: 1.052 - 1.092 g/cm<sup>3</sup> @ 68°F (20°C)  
pH: 6.5 - 9.2

### Solubility in H<sub>2</sub>O

Mandipropamid: 4.2 mg/l @ 77°F (25°C)

### Vapor Pressure

Mandipropamid: 7.1 x 10<sup>(-9)</sup> mmHg @ 68°F (20°C)

## 10. STABILITY AND REACTIVITY

Stability: Stable under normal use and storage conditions.  
Hazardous Polymerization: Will not occur.  
Conditions to Avoid: Not Available  
Materials to Avoid: Not Available  
Hazardous Decomposition Products: Not Available

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity/Irritation Studies (Finished Product)

Ingestion: Oral (LD50 Female Rat) : > 5000 mg/kg body weight  
Dermal: Dermal (LD50 Rat) : > 5000 mg/kg body weight  
Inhalation: Inhalation (LC50 Rat) : Not Available  
Eye Contact: Non-Irritating (Rabbit)  
Skin Contact: Non-Irritating (Rabbit)  
Skin Sensitization: Not a Sensitizer (Guinea Pig)

### Reproductive/Developmental Effects

Mandipropamid: Did not show reproductive toxicity effects in animal experiments.  
Did not show teratogenic effects in animal experiments.

### Chronic/Subchronic Toxicity Studies

Mandipropamid: No adverse effect has been observed in chronic toxicity tests.

### Carcinogenicity

Mandipropamid: Did not show mutagenic effects in animal experiments.  
Did not show carcinogenic effects in animal experiments.

### Other Toxicity Information

None

### Toxicity of Other Components

#### Propylene Glycol

Test results reported in Section 11 for the final product take into account any acute hazards related to the propylene glycol in the formulation.

Reported to cause central nervous system depression (anesthesia, dizziness, confusion), headache and nausea.

Chronic dietary exposure caused kidney and liver injury in experimental animals.

### Target Organs

#### Active Ingredients

Mandipropamid: Not Applicable

#### Inert Ingredients

Propylene Glycol: Nervous system, kidney, liver

## **12. ECOLOGICAL INFORMATION**

### Ecotoxicity Effects

#### Mandipropamid:

Invertebrate (Water Flea) Daphnia Magna EC50 > 7.1 mg/l

Green Algae ErC50 > 40 mg/l

Fish (Rainbow Trout) LC50 > 2.3 mg/l

### Environmental Fate

#### Mandipropamid:

The information presented here is for the active ingredient, mandipropamid.

This material is persistent in soil. This material is moderately mobile in soil.

## **13. DISPOSAL CONSIDERATIONS**

### Disposal

Do not reuse product containers. Dispose of product containers, waste containers, and residues according to local, state, and federal health and environmental regulations.

Characteristic Waste: Under certain circumstances, discarded product may exhibit TCLP hazardous characteristics. A hazardous waste determination should be done on a case by case basis.

Listed Waste: Not Applicable

## **14. TRANSPORT INFORMATION**

### DOT Classification

Ground Transport - NAFTA

Not regulated.

### Comments

Water Transport - International

Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (Mandipropamid), Marine Pollutant

Hazard Class: Class 9

Identification Number: UN 3082

Packing Group: PG III

Air Transport

Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (Mandipropamid)

Hazard Class: Class 9  
Identification Number: UN 3082  
Packing Group: PG III

## 15. REGULATORY INFORMATION

### EPCRA SARA Title III Classification

Section 311/312 Hazard Classes: Acute Health Hazard

Section 313 Toxic Chemicals: Not Applicable

### California Proposition 65

This Product does not contain chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

### CERCLA/SARA 304 Reportable Quantity (RQ)

None

### RCRA Hazardous Waste Classification (40 CFR 261)

Not Applicable

### TSCA Status

Exempt from TSCA, subject to FIFRA

## 16. OTHER INFORMATION

### NFPA Hazard Ratings

Health: 1  
Flammability: 1  
Instability: 0

### HMIS Hazard Ratings

Health: 1  
Flammability: 1  
Reactivity: 0

0	Minimal
1	Slight
2	Moderate
3	Serious
4	Extreme

For non-emergency questions about this product call:

1-800-334-9481

Original Issued Date: 10/9/2006

Revision Date: 4/11/2014

Replaces: 9/5/2013

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein.

End of MSDS