



SAFETY DATA SHEET

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH) Annex II

Orius

Revision Date 07-Apr-2016

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R-10819 HT 308 20 EW

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Orius

Synonyms Tebuconazole 200 EW
Pure substance/mixture Mixture

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Fungicide
Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

Supplier Address ADAMA Agricultural Solutions UK Ltd
Unit 15, Thatcham Buisness Village Colthrop Way,
Thatcham Berkshire RG19 4LW, UK : 01635 860555
Fax: 01635 861555

For further information, please contact

Email address ukenquiries@adama.com

1.4. Emergency telephone number

Emergency Telephone National Chemical Emergency Centre (UK):
Tel: 01865 407333 (24 hours)

Section 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Serious eye damage/eye irritation Category 2 - (H319)
Reproductive Toxicity Category 2 - (H361d)
Hazardous to the Aquatic Environment - Chronic Hazard Category 1 - (H410)

2.2. Label elements

Labeling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms

**Signal word**

Warning

Hazard Statements

H319 - Causes serious eye irritation
 H361d - Suspected of damaging the unborn child
 H410 - Very toxic to aquatic life with long lasting effects

Precautionary Statements

P102 - Keep out of reach of children
 P201 - Obtain special instructions before use
 P280 - Wear protective gloves/protective clothing/eye protection/face protection
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P501 - Dispose of contents/ container to an approved waste disposal plant

EU Specific Hazard Statements

EUH401 - To avoid risks to human health and the environment, comply with the instructions for use
 EUH208 - Contains Propanoic acid, 2-hydroxy-, 2-ethylhexyl ester and Rosin. May produce an allergic reaction

Additional phrases for PPP

SP1 - Do not contaminate water with the product or its container (Do not clean application equipment near surface water/Avoid contamination via drains from farmyards and roads).

2.3. Other hazards

No information available

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixture

Chemical Name	Weight-%	CAS No	EC No	Index No	Classification according to Regulation (EC) No. 1272/2008 [CLP]	M-Factor	REACH Registration Number
Tebuconazole	18-22	107534-96-3	403-640-2	603-197-00-7	Acute Tox. 4 (H302) Repr. 2 (H361d) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	M=1 M=10	-
Propanoic acid, 2-hydroxy-, 2-ethylhexyl ester	56-62	186817-80-1	-	-	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Skin Sens. 1 (H317)		-
Sodium dioctyl sulphosuccinate	2-4	577-11-7	209-406-4	-	Skin Irrit. 2 (H315) Eye Dam. 1 (H318)		01-2119491296-29
Rosin	2-5	8050-09-7	232-475-7	650-015-00-7	Skin Sens. 1 (H317)		01-2119480418-32

Full text of H- and EUH-phrases: see section 16

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures**General advice**

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). First aider: Pay attention to self-protection!.

Inhalation	Remove to fresh air. If symptoms persist, call a physician.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician. Wash off immediately with soap and plenty of water.
Eye contact	If symptoms persist, call a physician. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Ingestion	Rinse mouth. Drink plenty of water. Do NOT induce vomiting. Immediate medical attention is not required.
Self-protection of the first aider	Use personal protective equipment as required.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms None known

4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians May cause sensitization of susceptible persons.

Section 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media

No information available.

5.2. Special hazards arising from the substance or mixture

No specific hazard known.

5.3. Advice for firefighters

In the event of fire, wear self-contained breathing apparatus
 In the event of fire and/or explosion do not breathe fumes.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions

Use only with adequate ventilation.

For emergency responders

Use personal protection recommended in Section 8.

6.2. Environmental precautions

Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up

Take up mechanically, placing in appropriate containers for disposal.

6.4. Reference to other sections

Other Information

See also section 8,13

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling

Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product.

General Hygiene Considerations

Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children.

7.3. Specific end use(s)

Risk Management Methods (RMM)

The information required is contained in this Material Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Chemical Name	European Union	United Kingdom	France	Spain	Germany
Rosin 8050-09-7		TWA: 0.05 mg/m ³	TWA: 0.1 mg/m ³		
Chemical Name	Austria	Switzerland	Poland	Norway	Ireland
Rosin 8050-09-7					TWA: 0.05 mg/m ³ STEL: 0.15 mg/m ³

8.2. Exposure controls

Engineering Controls Ensure adequate ventilation, especially in confined areas.

Personal protective equipment
Eye/face protection Tight sealing safety goggles.

Body Protection Suitable protective clothing.

General Hygiene Considerations Wash contaminated clothing before reuse.

Environmental exposure controls Do not allow into any sewer, on the ground or into any body of water.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Property	Property	Values	Method	Remarks
Appearance	Physical state	: Liquid		
	Color	: clear yellow		
	Odor	: Organic Odor		
	Odor threshold	: No data available		
	pH	: 4.6-5.6	CIPAC MT 75.3	solution (1 %)
	Melting point/freezing point °C	: No data available		

Boiling point/boiling range °C	: No data available		
Flash point °C	: 86	EEC A.9	
Evaporation rate	: Not Applicable		
Flammability (solid, gas)	: Not applicable for liquids		
Upper/lower flammability or explosive limits	: No data available		
Vapor pressure kPa	: No data available		
Vapor density	: No data available		
Relative density	: 0.9-1.1	OECD 109	
Solubility(ies) mg/l	: No data available		
Partition Coefficient (n-octanol/water) Log Pow	:		See Section 12 for more information
Autoignition temperature °C	: 270	EEC A.15	
Decomposition temperature °C	: No data available		
Kinematic viscosity mm ² /s 40 °C	: 21.9	OECD 114 CIPAC MT 192	
Explosive properties	: Not an explosive		
Oxidizing properties	: No		

9.2. Other information

Bulk density g/ml	:		
Surface tension mN/m	: 31.1	EEC A.5 OECD 115	20.2 °C

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

No data available.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

None under normal processing.

10.4. Conditions to avoid

To avoid thermal decomposition, do not overheat.

10.5. Incompatible materials

Strong acids. Strong bases

10.6. Hazardous decomposition products

None under normal use conditions.

Section 11: TOXICOLOGY INFORMATION

11.1. Information on toxicological effects

Acute toxicity

	<u>Values</u>	<u>Species</u>	<u>Method</u>	<u>Remarks</u>
Oral LD50 mg/kg	: >2000	Rat	OECD 423	
Dermal LD50 mg/kg	: >2000	Rat	OECD 402	
Inhalation LC50 mg/l/4h	: >5.40	Rat	OECD 403	
Skin corrosion/irritation	: Non-irritating to the skin	Rabbit	OECD 404	
Serious eye damage/eye irritation	: Irritating to eyes	Rabbit	OECD 405	
Respiratory/skin sensitization	: Not a skin sensitizer	Guinea pig	OECD 406	

Chronic toxicity

Germ cell mutagenicity

Chemical Name
 Tebuconazole : Not classified

Carcinogenicity

Chemical Name
 Tebuconazole : Not classified

Reproductive toxicity

Chemical Name
 Tebuconazole : H361d - Suspected of damaging the unborn child

STOT - single exposure

Chemical Name
 Tebuconazole : No information available

STOT - repeated exposure

Chemical Name
 Tebuconazole : No information available

Aspiration hazard

Chemical Name
 Tebuconazole : No information available

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity Toxicity

Aquatic toxicity

Acute toxicity	Values	Species	Method	Remarks
Fish 96-hour LC50 mg/l	: 19.7	Oncorhynchus mykiss	OECD 203	Static
Crustacea 48-hour EC50 mg/l	: 29.5	Daphnia magna	OECD 202	
Algae 72-hour EC50 mg/l	: 15.5	D. Subspicatus	OECD 201	Static
Other plants EC50 mg/l	:			Not available

Terrestrial Toxicity

Birds Oral LD50 mg/kg
Chemical Name
 Tebuconazole : 1988 Bobwhite quail

Bees Oral LD50 µg/bee

Chemical Name
 Tebuconazole : 83.05 Oral

12.2. Persistence and degradability Persistence and degradability

Abiotic Degradation	Values	Method	Remarks
Water DT50 days Chemical Name Tebuconazole	: 365		
Soil DT50 days Chemical Name Tebuconazole	: 34.8		

Biodegradation

Chemical Name
 Tebuconazole : Not readily biodegradable OECD 301B

12.3. Bioaccumulative potential Bioaccumulative potential

Partition Coefficient (n-octanol/water) Log Pow	Values	Method	Remarks
Chemical Name Tebuconazole	: 3.7		

Bioconcentration factor (BCF)
 Chemical Name
 Tebuconazole : 78

12.4. Mobility in soil Mobility in soil

Adsorption/Desorption	Values	Method	Remarks
Chemical Name Tebuconazole	: 769		Koc

12.5. Results of PBT and vPvB assessment Results of PBT and vPvB assessment
 The components in this formulation do not meet the criteria for classification as PBT or vPvB

12.6. Other adverse effects Other adverse effects

No information available.

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from residues/unused products	Disposal should be in accordance with applicable regional, national and local laws and regulations.
Contaminated packaging	Improper disposal or reuse of this container may be dangerous and illegal.
Other Information	Waste codes should be assigned by the user based on the application for which the product was used.

Section 14: TRANSPORTATION INFORMATION

IMDG/IMO

14.1 UN/ID No *	3082
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Tebuconazole)
14.3 Hazard Class	9
14.4 Packing Group	III
14.5 Marine pollutant	Yes
14.6 Special precautions for user	

RID/ADR

14.1 UN/ID No *	3082
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Tebuconazole)
14.3 Hazard Class	9
14.4 Packing Group	III
14.5 Environmental hazard	Yes
14.6 Special precautions for user	

ICAO/IATA

14.1 UN/ID No *	3082
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Tebuconazole)

14.3 Hazard Class	9
14.4 Packing Group	III
14.5 Environmental hazard	Yes
14.6 Special precautions for user	
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not Applicable



* Note: UN3077 & UN3082 – These products may be transported as non-dangerous goods under the special provisions of IMDG Code 2.10.2.7; ADR SP375 and ICAO/IATA A197 when packed in single or inner packaging of up to 5L for liquids or 5 kg or less for solids.

Section 15: REGULATORY INFORMATION

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

15.2. Chemical safety assessment

A chemical safety assessment according to regulation (EC) No. 1907/2006 is not required. A risk assessment was performed according to directive (EC) No. 91/414 or according to regulation (EC) No. 1107/2009.

Section 16: OTHER INFORMATION

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

H302 - Harmful if swallowed
 H315 - Causes skin irritation
 H317 - May cause an allergic skin reaction
 H318 - Causes serious eye damage
 H319 - Causes serious eye irritation
 H361d - Suspected of damaging the unborn child
 H400 - Very toxic to aquatic life
 H410 - Very toxic to aquatic life with long lasting effects

Revision Note Changes made to the last version are labeled with this sign ***.

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

List of Acronyms

ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road
 ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
 CAS Number - Chemical Abstracts Service number
 EC Number - EINECS and ELINCS Number
 EINECS - European Inventory of Existing Commercial Substances
 ELINCS - European List of notified Chemical Substances
 IATA - International Air Transport Association
 ICAO-TI - Technical Instructions for the Safe Transport of Dangerous Goods by Air
 IMDG - International Maritime Dangerous Goods
 LC50 - Lethal Concentration to 50 % of a test population
 LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose)
 OECD - Organization for Economic Co-operation and Development
 PBT - Persistent, Bioaccumulative and Toxic substance
 RID - Regulations concerning the International Carriage of Dangerous Goods by Rail
 STOT - Specific Target Organ Toxicity
 vPvB - Very Persistent and Very Bioaccumulative

Disclaimer

The information provided in this Material 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.

End of Safety Data Sheet