



## SAFETY DATA SHEET RIVAL DUO

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

**Product name** RIVAL DUO  
**Chemical name** Propamocarb hydrochloride 400 g/l + Cymoxanil 50 g/l SC

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

**Identified uses** Fungicide

#### 1.3. Details of the supplier of the safety data sheet

**Supplier** Hockley Agro  
 Hockley House  
 3 Longstone Road  
 Ashbrook Office Park  
 Manchester  
 M22 5LB  
 TEL: +44 (0) 161 209 7400  
 FAX: +44 (0) 161 209 7401  
 sds@hockley.co.uk

**Manufacturer** AGRIA S.A.  
 Asenovgradsko shose, 4009 Plovdiv  
 032 273 500, the phone number is available only during office hours  
 + 359 32 63 83 77  
 agria@agria.bg

#### 1.4. Emergency telephone number

**Emergency telephone** +44 (0)800 246 1274 (24 hours)

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification (EC 1272/2008)

**Physical hazards** Not Classified  
**Health hazards** Repr. 2 - H361d  
**Environmental hazards** Aquatic Chronic 2 - H411

#### 2.2. Label elements

##### Hazard pictograms



**Signal word** Warning

**Hazard statements** H361d Suspected of damaging the unborn child.  
 H411 Toxic to aquatic life with long lasting effects.

## RIVAL DUO

<b>Precautionary statements</b>	P202 Do not handle until all safety precautions have been read and understood. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P391 Collect spillage. P501 Dispose of contents/ container in accordance with national regulations.
<b>Supplemental label information</b>	EUH208 Contains propamocarb hydrochloride and cymoxanil. May produce an allergic reaction. EUH401 To avoid risks to human health and the environment, comply with the instructions for use. 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) OP II – The product must not be applied in the zone 2 established to protect the surface and ground sources of drinking water
<b>Contains</b>	CYMOXANIL
<b>Supplementary precautionary statements</b>	P201 Obtain special instructions before use. P273 Avoid release to the environment. P308+P313 IF exposed or concerned: Get medical advice/ attention. P405 Store locked up.

### 2.3. Other hazards

#### SECTION 3: Composition/information on ingredients

##### 3.2. Mixtures

<b>PROPYL [3-(DIMETHYLAMINO)PROPYL]CARBAMATE MONOHYDROCHLORIDE</b>	<b>40.0%</b>
CAS number: 25606-41-1                      EC number: 247-125-9	
<b>Classification</b> Skin Sens. 1 - H317	<b>Classification (67/548/EEC or 1999/45/EC)</b> R43.
<b>CYMOXANIL</b>	<b>5.0%</b>
CAS number: 57966-95-7                      EC number: 261-043-0 M factor (Acute) = 1	
<b>Classification</b> Acute Tox. 4 - H302 Skin Sens. 1 - H317 Repr. 2 - H361d STOT RE 2 - H373 Aquatic Acute 1 - H400 Aquatic Chronic 2 - H411	<b>Classification (67/548/EEC or 1999/45/EC)</b> Xn;R22,R48/22. Repr. Cat. 3;R63. N;R50/53. R43.
<b>2,2-DICHLORO-1-(3-METHYL-2,3-DIHYDRO-1,4-BENZOXAZIN-4-YL)ETHANONE</b>	<b>1-5%</b>
CAS number: 99734-09-5                      EC number: 619-457-8	
<b>Classification</b> Aquatic Chronic 3 - H412	<b>Classification (67/548/EEC or 1999/45/EC)</b> R52/53.

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

## RIVAL DUO

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

<b>Inhalation</b>	Remove person to fresh air and keep comfortable for breathing. Get medical attention if symptoms are severe or persist.
<b>Ingestion</b>	Call a physician or poison center immediately. Rinse mouth. Do not induce vomiting.
<b>Skin contact</b>	Rinse immediately with plenty of water. Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing. Wash clothing and clean shoes thoroughly before reuse.
<b>Eye contact</b>	Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Continue to rinse for at least 15 minutes. Get medical attention if irritation persists after washing.
<b>Protection of first aiders</b>	First aid personnel should wear appropriate protective equipment during any rescue.

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

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

<b>Notes for the doctor</b>	Treat symptomatically.
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### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

<b>Suitable extinguishing media</b>	Extinguish with foam, carbon dioxide, dry powder or water fog.
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<b>Unsuitable extinguishing media</b>	Do not use the following: High volume water jet.
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#### 5.2. Special hazards arising from the substance or mixture

<b>Hazardous combustion products</b>	Thermal decomposition or combustion products may include the following substances: Nitrous gases (NO <sub>x</sub> ). Carbon monoxide (CO). Hydrogen chloride (HCl). Carbon dioxide (CO <sub>2</sub> ).
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#### 5.3. Advice for firefighters

<b>Special protective equipment for firefighters</b>	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.
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### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

<b>For non-emergency personnel</b>	Keep unnecessary personnel away.
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<b>For emergency responders</b>	Eliminate all ignition sources (flame or spark). Provide local and general exhaust ventilation. Use protective clothing and gloves, respiratory mask with an effective particulate filter, chemical goggles for eye protection
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#### 6.2. Environmental precautions

<b>Environmental precautions</b>	Avoid the spillage or runoff entering drains, sewers or watercourses. Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.
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#### 6.3. Methods and material for containment and cleaning up

<b>Methods for cleaning up</b>	Absorb spillage with sand or other inert absorbent. Remove spillage with vacuum cleaner or collect with a shovel and broom, or similar. Collect and place in suitable waste disposal containers and seal securely. Residues and empty containers should be taken care of as hazardous waste according to local and national provisions.
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#### 6.4. Reference to other sections

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**Reference to other sections** For personal protection, see Section 8. For waste disposal, see Section 13.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

**Advice on general occupational hygiene** Good personal hygiene procedures should be implemented. Take off contaminated clothing and wash it before reuse. Remove contaminated clothing and protective equipment before entering eating areas. Wash hands and any other contaminated areas of the body with soap and water before leaving the work site.

#### 7.2. Conditions for safe storage, including any incompatibilities

**Storage precautions** Store in accordance with national regulations. Store in tightly-closed, original container in a dry, cool and well-ventilated place. Do not store near heat sources or expose to high temperatures.

#### 7.3. Specific end use(s)

**Specific end use(s)** The identified uses for this product are detailed in Section 1.2. Refer to the label and/or leaflet

### SECTION 8: Exposure controls/Personal protection

#### 8.1. Control parameters

##### Occupational exposure limits

None

#### 8.2. Exposure controls

##### Protective equipment



**Appropriate engineering controls**

Avoid inhalation of vapours and spray/mists. Ensure operatives are trained to minimise exposure.

**Eye/face protection**

The following protection should be worn: Chemical splash goggles. Personal protective equipment for eye and face protection should comply with European Standard EN166.

**Hand protection**

To protect hands from chemicals, gloves should comply with European Standard EN374. For work of short duration or where a high degree of manual dexterity is needed, use protective gloves made of: Polyvinyl chloride (PVC). For work of long duration or where mechanical processes present a risk, use protective gloves made of: Nitrile rubber. Thickness: > 0.4 mm. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected.

**Hygiene measures**

Wash at the end of each work shift and before eating, smoking and using the toilet. Remove contaminated clothing and protective equipment before entering eating areas. Wash contaminated clothing before reuse. Do not smoke in work area.

**Respiratory protection**

In case of mist or aerosol formation use respirator with an approved filter. Half mask with a particle filter FFP2 (EN149).

**Environmental exposure controls**

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

**Appearance** Cream/beige, liquid

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<b>Odour</b>	Sweetish.
<b>Odour threshold</b>	Not available.
<b>pH</b>	pH (diluted solution): 2.8-3.5 (1% solution)
<b>Melting point</b>	Not available.
<b>Initial boiling point and range</b>	103-104°C
<b>Flash point</b>	No flash point – Determination conducted up to the boiling point
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not relevant.
<b>Vapour pressure</b>	Not available.
<b>Vapour density</b>	No information available.
<b>Bulk density</b>	1.095 ± 0.05 kg/l
<b>Solubility(ies)</b>	No information available.
<b>Partition coefficient</b>	No information available.
<b>Auto-ignition temperature</b>	No flash observed below 400 °C
<b>Explosive properties</b>	Based on available data the classification criteria are not met.
<b>Oxidising properties</b>	Does not meet the criteria for classification as oxidising.

### 9.2. Other information

#### SECTION 10: Stability and reactivity

##### 10.1. Reactivity

**Reactivity** There are no known reactivity hazards associated with this product.

##### 10.2. Chemical stability

**Stability** Stable at normal ambient temperatures and when used as recommended.

##### 10.3. Possibility of hazardous reactions

**Possibility of hazardous reactions** No potentially hazardous reactions known.

##### 10.4. Conditions to avoid

**Conditions to avoid** Keep at temperature not exceeding 30°C.

##### 10.5. Incompatible materials

**Materials to avoid** Avoid contact with the following materials: Strong oxidising agents. Strong reducing agents. Strong acids. Strong alkalis.

##### 10.6. Hazardous decomposition products

**Hazardous decomposition products** Does not decompose when used and stored as recommended. (see section 5)

#### SECTION 11: Toxicological information

##### 11.1. Information on toxicological effects

###### Acute toxicity - oral

**Notes (oral LD<sub>50</sub>)** LD<sub>50</sub> = 5000 mg/kg, Oral, Rat

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<b>ATE oral (mg/kg)</b>	10,000.0
<b><u>Acute toxicity - dermal</u></b>	
<b>Notes (dermal LD<sub>50</sub>)</b>	LD <sub>50</sub> > 2000 mg/kg, Dermal, Rat
<b><u>Acute toxicity - inhalation</u></b>	
<b>Notes (inhalation LC<sub>50</sub>)</b>	LC <sub>50</sub> > 5.184 mg/l, Inhalation, Rat
<b><u>Skin corrosion/irritation</u></b>	
<b>Skin corrosion/irritation</b>	Based on available data the classification criteria are not met.
<b>Animal data</b>	Erythema/eschar score: No erythema (0). Oedema score: No oedema (0). Rabbit
<b><u>Serious eye damage/irritation</u></b>	
<b>Serious eye damage/irritation</b>	Based on available data the classification criteria are not met.
<b><u>Respiratory sensitisation</u></b>	
<b>Respiratory sensitisation</b>	Based on available data the classification criteria are not met.
<b><u>Skin sensitisation</u></b>	
<b>Skin sensitisation</b>	Based on available data the classification criteria are not met.
<b><u>Germ cell mutagenicity</u></b>	
<b>Genotoxicity - in vitro</b>	Based on available data the classification criteria are not met.
<b><u>Carcinogenicity</u></b>	
<b>Carcinogenicity</b>	Based on available data the classification criteria are not met.
<b><u>Reproductive toxicity</u></b>	
<b>Reproductive toxicity - development</b>	Suspected of damaging fertility. Suspected of damaging the unborn child.
<b><u>Specific target organ toxicity - single exposure</u></b>	
<b>STOT - single exposure</b>	No information available.
<b><u>Specific target organ toxicity - repeated exposure</u></b>	
<b>STOT - repeated exposure</b>	No information available.
<b><u>Aspiration hazard</u></b>	
<b>Aspiration hazard</b>	Not available.

### SECTION 12: Ecological information

<b>Ecotoxicity</b>	Very toxic to aquatic life with long lasting effects.
<b><u>12.1. Toxicity</u></b>	
<b><u>Acute aquatic toxicity</u></b>	
<b>Acute toxicity - fish</b>	LC <sub>50</sub> , 96 hours: > 100 mg/l, Oncorhynchus mykiss (Rainbow trout)
<b>Acute toxicity - aquatic invertebrates</b>	EC <sub>50</sub> , : >100 mg/l, Daphnia magna
<b>Acute toxicity - aquatic plants</b>	NOEC, : 3.13 mg/l, Pseudokirchneriella subcapitata LOEC, : 6.25 mg/l, Pseudokirchneriella subcapitata EC <sub>50</sub> , : 11.31 mg/l, Pseudokirchneriella subcapitata ErC50, : 39.78 mg/l, Pseudokirchneriella subcapitata EbC50, : 39.78 mg/l, Pseudokirchneriella subcapitata

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**Acute toxicity - terrestrial**      NOEC, : 5000 mg/kg, Eisenia Fetida (Earthworm)  
 LC<sub>50</sub>, 14 days: > 5000 mg/kg, Eisenia Fetida (Earthworm)  
 LD50 (oral), : > 2000 mg/kg, Coturnix Japonica (Japanese quail)

### 12.2. Persistence and degradability

**Persistence and degradability** Propamocarb does not persist in soil and is rapidly mineralized. DT50soil : 10 – 27 days.  
 Cymoxanil is easily degradable, DT50soil : 3.5 days.

### 12.3. Bioaccumulative potential

**Bioaccumulative potential**      Low potential for bioaccumulation.

**Partition coefficient**            No information available.

### 12.4. Mobility in soil

**Mobility**                            propamocarb : low mobility in soil  
 cymoxanil : decomposition in soil is caused by reactions of hydrolysis.

### 12.5. Results of PBT and vPvB assessment

**Results of PBT and vPvB assessment**      This substance is not classified as PBT or vPvB according to current EU criteria.

### 12.6. Other adverse effects

**Other adverse effects**            Not known.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

**General information**            Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements.

**Disposal methods**                Collection of small product quantities: Store in solid waste containers. The container should be clearly labelled, with content description, danger indication symbols, H- and P- phrases. Store in well ventilated areas, until deposit to a licensed waste disposal company. The water used for contaminated surface washing should be collected for further treatment. Do not reuse empty containers. Do not empty into drains. Avoid the spillage or runoff entering drains, sewers or watercourses.

**Waste class**                        07 04 13\* solid waste, containing dangerous substances 07 04 01\* aqueous washing liquid and mother liquors 15 01 10\* packaging containing residues of or contaminated by dangerous substances

## SECTION 14: Transport information

**General**                            Environmentally Hazardous Substance Mark NOT required for single packagings and combination packagings containing inner packagings ≤ 5L for liquids, or ≤ 5kg for solids. (ADR special provision 375, IMDG code 2.10.2.7, IATA special provision A197)

Marine pollutants packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 kg or less for solids are not subject to any other provisions of the Code relevant to marine pollutants provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8. In the case of marine pollutants also meeting the criteria for inclusion in another hazard class all provisions of this Code relevant to any additional hazards continue to apply.

### 14.1. UN number

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UN No. (ADR/RID)	3082
UN No. (IMDG)	3082
UN No. (ICAO)	3082
UN No. (ADN)	3082

### 14.2. UN proper shipping name

<b>Proper shipping name (ADR/RID)</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (CYMOXANIL AND 2,2-DICHLORO-1-(3-METHYL-2,3-DIHYDRO-1,4-BENZOXAZIN-4-YL)ETHANONE).
<b>Proper shipping name (IMDG)</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (CYMOXANIL AND 2,2-DICHLORO-1-(3-METHYL-2,3-DIHYDRO-1,4-BENZOXAZIN-4-YL)ETHANONE).
<b>Proper shipping name (ICAO)</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (CYMOXANIL AND 2,2-DICHLORO-1-(3-METHYL-2,3-DIHYDRO-1,4-BENZOXAZIN-4-YL)ETHANONE).
<b>Proper shipping name (ADN)</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (CYMOXANIL AND 2,2-DICHLORO-1-(3-METHYL-2,3-DIHYDRO-1,4-BENZOXAZIN-4-YL)ETHANONE).

### 14.3. Transport hazard class(es)

ADR/RID class	9
ADR/RID classification code	M6
ADR/RID label	9
IMDG class	9
ICAO class/division	9
ADN class	9

#### Transport labels



### 14.4. Packing group

ADR/RID packing group	III
IMDG packing group	III
ICAO packing group	III
ADN packing group	III

### 14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant



### 14.6. Special precautions for user

EmS	F-A, S-F
ADR transport category	3
Emergency Action Code	•3Z



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**Hazard Identification Number** 90  
(ADR/RID)

**Tunnel restriction code** (-)

### 14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

#### SECTION 15: Regulatory information

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

###### **National regulations**

###### Transport

Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No 1348) Merchant Shipping (Dangerous Goods and Marine Pollutants) Regulations 1997 (SI 1997 No 2367) Air Navigation Dangerous Goods Regulations 2002 (SI 2002 No 2786)

###### Supply and Use

Chemical (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No 716) Chemical (Hazard Information and Packaging for Supply) (Northern Ireland) Regulations 2009 Control of Substances Hazardous to Health Regulations 2002 (SI 2002 No 2677) EH40 Occupational Exposure Limits - Table 1 List of approved workplace exposure limits Control of Pesticide Regulations 1986 Dangerous Substances and Explosive Atmospheres Regulations 2002

###### Waste Treatment

Environmental Protection Act 1990, Part II Environmental Protection (Duty of Care) Regulations 1991 The Waste Management Licensing Regulations 1994 (as amended) Hazardous Waste Regulations 2005 (Replacing Special Waste Regulations 1996 as amended) Landfill Directive Regulation on Substances That Deplete the Ozone Layer 1994 (EEC/3093/94) Water Resources Act 1991 Anti-Pollution Works Regulations 1999

###### **EU legislation**

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).  
EC Regulation 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products (as amended)  
Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).  
COMMISSION REGULATION (EU) No 547/2011 of 8 June 2011 implementing Regulation (EC) No 1107/2009 of the European Parliament and of the Council as regards labelling requirements for plant protection products  
Directive 2012/18/EU of the European Parliament and of the Council of 4 July 2012 on the control of major-accident hazards involving dangerous substances.

##### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

#### SECTION 16: Other information

###### **Key literature references and sources for data**

Source: European Chemicals Agency, <http://echa.europa.eu/> Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

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<b>Classification procedures according to Regulation (EC) 1272/2008</b>	Repr. 2 - H361fd: Calculation method.
<b>Training advice</b>	General occupational hygiene training recommended
<b>Revision date</b>	21/02/2019
<b>SDS number</b>	20831
<b>Hazard statements in full</b>	H302 Harmful if swallowed. H317 May cause an allergic skin reaction. H361d Suspected of damaging the unborn child. H373 May cause damage to organs through prolonged or repeated exposure if swallowed. H400 Very toxic to aquatic life. H411 Toxic to aquatic life with long lasting effects. H412 Harmful to aquatic life with long lasting effects.

The information contained within this Safety Data Sheet is in accordance with the guidelines established by Regulation (EU) 1907/2006 and Regulation (EU) 2015/830 amending Regulation (EU) No 1907/2006 and any subsequent amendments. This data sheet complements the user's instructions, but does not replace them. The information it contains is based on the knowledge available about the product concerned at the time it was compiled. Users are further reminded of the possible risks of using a product for purposes other than those for which it was intended. The required information complies with current EEC legislation. Addressees are requested to observe any additional national requirements. This 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. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.