SAFETY DATA SHEET

RUBRIC

Compilation date: 05/07/2013

Revision date: 24/01/2014

Revision No: 2

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name: RUBRIC

Product code: 5910

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

Use of substance / mixture: * Can be used as a fungicide only.

1.3. Details of the supplier of the safety data sheet

Company name: Headland Agrochemicals
Rectors Lane
Pentre
Flintshire
CH5 2DH
United Kingdom

Tel: +44(0)1244 537370

Fax: +44(0)1244 532097

Email: enquiry@headlandgroup.com

1.4. Emergency telephone number

Emergency tel: +44(0)1244 537370
(office hours only)

Section 2: Hazards identification

2.1. Classification of the substance or mixture

Classification under CHIP: Xn: R20; Xn: R40; Xn: R62; Xn: R63; N: R50/53

Classification under CLP: * Acute Tox. 4: H332; Carc. 2: H351; Repr. 2: H361fd; Aquatic Chronic 1: H410; -: EUH208; -: EUH401

Most important adverse effects: Harmful by inhalation. Limited evidence of a carcinogenic effect. Possible risk of impaired fertility. Possible risk of harm to the unborn child. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

2.2. Label elements

Label elements under CLP:

Hazard statements: * H332: Harmful if inhaled.
H351: Suspected of causing cancer.
H361fd: Suspected of damaging fertility. Suspected of damaging the unborn child.
H410: Very toxic to aquatic life with long lasting effects.

[cont...]

EUH208: Contains 1,2-benzisothiazol-3(2H)-one. May produce an allergic reaction.
EUH401: To avoid risks to human health and the environment, comply with the instructions for use.

Signal words: * Warning

Hazard pictograms: * GHS07: Exclamation mark
GHS08: Health hazard
GHS09: Environmental

Precautionary statements: * P261: Avoid breathing vapours.
P281: Use personal protective equipment as required.
P273: Avoid release to the environment.
P312: Call a POISON CENTER or doctor if you feel unwell.
P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P501: Dispose of contents/container to hazardous or special waste collection point.

Label elements under CHIP:

Hazard symbols: Harmful.
Dangerous for the environment.

Risk phrases: R20: Harmful by inhalation.
R40: Limited evidence of a carcinogenic effect.
R62: Possible risk of impaired fertility.
R63: Possible risk of harm to the unborn child.
R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases: * S2: Keep out of the reach of children.
S13: Keep away from food, drink and animal feeding stuffs.
S23: Do not breathe spray.
S29: Do not empty into drains.
S36/37: Wear suitable protective clothing and gloves.
S46: If swallowed, seek medical advice immediately and show this container or label.
S60: This material and its container must be disposed of as hazardous waste.
S61: Avoid release to the environment. Refer to special instructions / safety data sheets.

Precautionary phrases: * Contains 1,2-benzisothiazolin-3-one. May produce an allergic reaction.
To avoid risks to man and the environment, comply with the instructions for use.
Do not contaminate water with the product or its container. Do not clean application

[cont...]

equipment near surface water. Avoid contamination via drains from farmyards and roads.

2.3. Other hazards

PBT: This product is not identified as a PBT substance.

Section 3: Composition/information on ingredients

3.2. Mixtures

*** Hazardous ingredients:**

C16-18, ETHOXYLATED, PROPOXYLATED, ALCOHOLS

EINECS	CAS	CHIP Classification	CLP Classification	Percent
-	68002-96-0	N: R50	Aquatic Acute 1: H400	10-30%

SOLVENT NAPHTHA (PETROLEUM), HEAVY AROMATIC - REACH registered number(s): 01-2119451097-39-XXXX

265-198-5	64742-94-5	Xn: R65; -: R66; N: R51/53	Asp. Tox. 1: H304; Aquatic Chronic 2: H411	10-30%

PROPYLENE GLYCOL

200-338-0	57-55-6	Substance with a Community workplace exposure limit.	-	10-30%

EPOXICONAZOLE

406-850-2	133855-98-8	Xn: R40; Xn: R62; Xn: R63; N: R51/53	Carc. 2: H351; Repr. 2: H361fd; Aquatic Chronic 2: H411	10-30%

1,2-BENZISOTHIAZOLIN-3-ONE

220-120-9	2634-33-5	Xn: R22; Xi: R38; Xi: R41; Sens.: R43; N: R50	Acute Tox. 4: H302; Skin Irrit. 2: H315; Eye Dam. 1: H318; Skin Sens. 1: H317; Aquatic Acute 1: H400	<1%

Section 4: First aid measures

4.1. Description of first aid measures

Skin contact: Remove all contaminated clothes and footwear immediately unless stuck to skin. Drench the affected skin with running water for 10 minutes or longer if substance is still on skin. Consult a doctor if irritation develops.

Eye contact: Bathe the eye with running water for 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. Transfer to hospital for specialist examination.

Ingestion: Do not induce vomiting. Wash out mouth with water. Drink several glasses of water or milk. If vomiting occurs, rinse mouth and drink fluids again. Transfer to hospital as soon as possible.

Inhalation: Remove casualty from exposure ensuring one's own safety whilst doing so. Light cases: Keep person under surveillance. Get medical attention immediately if symptoms develop. Serious cases: Get medical attention immediately or call for an ambulance.

[cont...]

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

Skin contact: There may be mild irritation at the site of contact.

Eye contact: There may be irritation and redness.

Ingestion: There may be irritation of the throat.

Inhalation: No sensitisation effects have been observed.

Delayed / immediate effects: Immediate effects can be expected after short-term exposure. Possible systemic effects.

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

Immediate / special treatment: Immediate medical attention is required in case of ingestion or eye contact. Show this safety data sheet to the doctor in attendance. There is no specific antidote against this substance. Gastric lavage and/or administration of activated charcoal can be considered. After decontamination, treatement should be directed at the control of symptoms and the clinical condition.

Section 5: Fire-fighting measures

5.1. Extinguishing media

Extinguishing media: Dry chemical or carbon dioxide for small fires, water spray or foam for large fires. Avoid heavy hose streams.

5.2. Special hazards arising from the substance or mixture

Exposure hazards: The essential breakdown products are volatile, malodorous, toxic, irritant and inflammable compounds such as nitrogen oxides, hydrogen fluoride, hydrogen chloride, carbon monoxide, carbon dioxide and various fluorinated and chlorinated organic compounds.

5.3. Advice for fire-fighters

Advice for fire-fighters: Use water spray to keep fire-exposed containers cool. Approach fire from upwind to avoid hazardous vapours and toxic decomposition products. Fight fire from protected location or maximum possible distance. Dike area to prevent water run off. Wear protective clothing to prevent contact with skin and eyes. Wear self-contained breathing apparatus.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: Do not attempt to take action without suitable protective clothing - see section 8 of SDS. In the case of large spills, (10 tons or more) alert the approriate authorities. Turn leaking containers leak-side up to prevent the escape of liquid. Mark out the contaminated area with signs and prevent access to unauthorised personnel. Avoid and reduce mist formation as much as possible.

[cont...]

6.2. Environmental precautions

Environmental precautions: Contain the spillage using bunding. Wash waters must be prevented from entering surface water drains. Accidental release into water courses must be alerted to the appropriate regulatory body.

6.3. Methods and material for containment and cleaning up

Clean-up procedures: Surface water drains within close vicinity of the spill should be covered. Spills on the floor or other impervious surface should be absorbed onto an absorptive material such as hydrated lime, universal binder, Fuller's earth or other absorbent clays. Collect the contaminated absorbent in suitable containers. Rinse the area with water and industrial detergent. Absorb wash liquid onto absorbent and transfer to suitable containers. Wash waters must be prevented from entering surface water drains. Large spills which soak into the ground should be dug up and placed in suitable containers. Spills in water should be contained as much as possible by isolation of the contaminated water. The contaminated water must be collected and removed for treatment or disposal.

6.4. Reference to other sections

Reference to other sections: Refer to section 8 of SDS. Refer to section 13 of SDS.

Section 7: Handling and storage

7.1. Precautions for safe handling

Handling requirements: Avoid direct contact with the substance. Material should be handled by mechanical means as much as possible. Ensure there is sufficient ventilation of the area. Wear correct personal protective equipment (see section 8). Keep unprotected persons and children away from the working area. Wash contaminated clothing thoroughly after handling. Before removing gloves, wash them with soap and water. Do not contaminate water when disposing of equipment wash waters. See section 13 for disposal.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store in cool, well ventilated area. Keep container tightly closed. Store above 5°C. The storage room should be contructed of incombustible material, closed, dry, ventilated and with impermeable floor. The room should only be used for storage of chemicals, and without access to unauthorised persons or children. Food, drink, feed and seed should not be present. A warning sign reading 'POISON' is recommended. A hand wash station should be available.

7.3. Specific end use(s)

Specific end use(s): * This product is a registered pesticide, which may only be used for the applications it is registered for, in accordance with a label approved by the regulatory authorities.

Section 8: Exposure controls/personal protection

[cont...]

8.1. Control parameters

Hazardous ingredients:

PROPYLENE GLYCOL

Workplace exposure limits: **Respirable dust**

State	8 hour TWA	15 min. STEL	8 hour TWA	15 min. STEL
UK	150 ppm (474 mg/m^3)	-	-	-

8.1. DNEL/PNEC Values

Hazardous ingredients:

1,2-BENZISOTHIAZOLIN-3-ONE

Type	Exposure	Value	Population	Effect
DNEL	Inhalation (developmental tox)	111	Consumers	Systemic

8.2. Exposure controls

Engineering measures: When used in a closed system, personal protection equipment will not be required. The following is meant for other situations, when the use of a closed system is not possible, or when it is necessary to open the system. Consider the need to render equipment or piping system non-hazardous before opening.

Respiratory protection: Respiratory protection with universal filter type, including particle filter.

Hand protection: Wear chemical resistant gloves, such as barrier laminate, butyl rubber or nitrile rubber. The breakthrough times of these materials for the product are unknown. Replace gloves frequently and limit work done manually.

Eye protection: Safety glasses. Ensure eye bath is to hand.

Skin protection: Waterproof pants and apron of chemical resistant material or coveralls with PE coating will be sufficient for short time exposure. In cases of prolonged exposure, barrier laminate coveralls may be required.

Environmental: Refer to specific Member State legislation for requirements under Community environmental legislation.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

State: Liquid

Colour: Off-white

Odour: Aromatic

Oxidising: Non-oxidising (by EC criteria)

Solubility in water: * Emulsifiable in water

Viscosity: 1234 mPa.s, at 20°C and 12 rpm

Melting point/range°C: * <0°C **Flash point°C:** >200

Part.coeff. n-octanol/water: See section 12.3

[cont...]

Autoflammability°C: 231

Relative density: 1.04 g/ml **pH:** 4.8 at 25°C

9.2. Other information

Other information: No data available.

Section 10: Stability and reactivity

10.1. Reactivity

Reactivity: Stable under recommended transport or storage conditions.

10.2. Chemical stability

Chemical stability: Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions: No data available.

10.4. Conditions to avoid

Conditions to avoid: Heat.

10.5. Incompatible materials

Materials to avoid: No data available.

10.6. Hazardous decomposition products

Haz. decomp. products: In combustion emits toxic fumes. See subsection 5.2

Section 11: Toxicological information

11.1. Information on toxicological effects

Toxicity values:

Route	Species	Test	Value	Units
VAPOURS	RAT	4H LC50	2.12	mg/l
DERMAL	RAT	LD50	>2000	mg/kg
ORAL	RAT	LD50	>2000	mg/kg

Hazardous ingredients:

C16-18, ETHOXYLATED, PROPOXYLATED, ALCOHOLS

ORAL	RAT	LD50	3400	mg/kg

SOLVENT NAPHTHA (PETROLEUM), HEAVY AROMATIC

DERMAL	RAT	LD50	>2000	mg/kg
ORL	RAT	LD50	>5000	mg/kg

[cont...]

VAPOURS	RAT	4H LC50	>4.7	mg/l

PROPYLENE GLYCOL

IVN	RAT	LD50	6423	mg/kg
ORL	MUS	LD50	22	gm/kg
ORL	RAT	LD50	20	gm/kg

EPOXICONAZOLE

DERMAL	RAT	LD50	>2000	mg/kg
DUST/MIST	RAT	4H LC50	>5.3	mg/l
ORAL	RAT	LD50	5000	mg/kg

1,2-BENZISOTHIAZOLIN-3-ONE

ORL	MUS	LD50	1150	mg/kg
ORL	RAT	LD50	1020	mg/kg

Relevant effects for mixture:

Effect	Route	Basis
Acute toxicity (harmful)	INH	Hazardous: calculated
Toxicity for reproduction	--	Hazardous: calculated

Symptoms / routes of exposure

Skin contact: There may be mild irritation at the site of contact.

Eye contact: There may be irritation and redness.

Ingestion: There may be irritation of the throat.

Inhalation: No sensitisation effects have been observed.

Delayed / immediate effects: Immediate effects can be expected after short-term exposure. Possible systemic effects.

Section 12: Ecological information

12.1. Toxicity

Ecotoxicity values:

Species	Test	Value	Units
BEE (Apis mellifera)	96H LD50 (contact)	>200	µg/bee
BEE (Apis mellifera)	96H LD50 (oral)	>100	µg/bee
EARTHWORM (Eisenia fetida)	28d LC50	>1000	mg/kg soil
DUCKWEED (Lemna sp.)	7d EC50	90.7	µg/l
GREEN ALGA (Desmodesmus subspicatus)	72H EC50	8.78	µg/l

[cont...]

GREEN ALGA (Pseudokirchneriella subcapit	72H EC50	>0.98	mg/l
DAPHNIDS (Daphnia magna)	48H EC50	0.63	mg/l
RAINBOW TROUT (Oncorhynchus mykiss)	96H LC50	1.1	mg/l

12.2. Persistence and degradability

Persistence and degradability: Epoxicanazole is not readily biodegradable. Primary degredation half-lives vary from a few months to some years in aerobic soil, depending on circumstances. It can accumulate in soil if applied in consecutive years. Ethoxylated propoxylated alcohol is readily biodegradable. Solvent naptha is readily biodegradable. However, it is not always rapidly degraded in the environment, but it is expected to be degraded at a moderate rate, depending on circumstances.

12.3. Bioaccumulative potential

Bioaccumulative potential: Epoxiconazole has a moderate potential for bioaccumulation, but is rapidly excreted. The bioaccumulation factor (BCF) is measured to 70 for whole fish (rainbow trout) and the partition coefficient is measured at Log Kow = 3.44, for epoxiconazole. Ethoxylated propoxylated alcohol must be considered to have a potential to bioaccumulate to a certain extent. No exact data is available. Solvent naptha has a potential to bioaccumulate if continuous exposure is maintained. Most components can be metabolised by many organisms. Bioaccumulation factors (BCFs) of some of the main components are 1200 - 3200 by model calculation.

12.4. Mobility in soil

Mobility: Epoxiconazole is of low mobility in soil. Absorption to soil depends on soil type and circumstances. Solvent naptha is not mobile in the environment, but it is volatile and will evaporate to the air if released onto water or on the surface of soil. It floats and can migrate to sediment.

12.5. Results of PBT and vPvB assessment

PBT identification: This product is not identified as a PBT substance.

12.6. Other adverse effects

Other adverse effects: No data available.

Section 13: Disposal considerations

13.1. Waste treatment methods

Disposal operations: * Waste that cannot be reused or chemically reprocessed can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Disposal of packaging: Triple rinse (or equivalent) and offer for recycling or reconditioning. Alternatively, the packaging can be rinsed and punctured to make it unusable for other purpose, and then

[cont...]

be disposed of in a sanitary landfill. Treat the cleaning water following the above method for waste product.

NB: The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

Section 14: Transport information

14.1. UN number

UN number: UN3082

14.2. UN proper shipping name

Shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (EPOXICONAZOLE; SOLVENT NAPHTHA (PETROLEUM), HEAVY AROMATIC; C16-18, ETHOXYLATED, PROPOXYLATED, ALCOHOLS)

14.3. Transport hazard class(es)

Transport class: 9

14.4. Packing group

Packing group: III

14.5. Environmental hazards

Environmentally hazardous: Yes **Marine pollutant:** Yes

14.6. Special precautions for user

Special precautions: * Do not discharge to the environment.

Tunnel code: E

Transport category: 3

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Transport in bulk: The product is not transported in bulk tankers.

Section 15: Regulatory information

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

Specific regulations: * Sevesco category in Annex I, part 2, to Dir.96/82/EC: dangerous for the environment. Workers under the age of 18 are not permitted to work with the product. All ingredients in this product are covered by EU chemical legislation. Product Registration Number: MAPP 14118

15.2. Chemical Safety Assessment

Chemical safety assessment: A chemical safety assessment has not been carried out for the substance or the mixture by the supplier.

Section 16: Other information

[cont...]

Other information

Other information: This safety data sheet is prepared in accordance with Commission Regulation (EU) No 453/2010.

* indicates text in the SDS which has changed since the last revision.

Phrases used in s.2 and 3: EUH208: Contains <name of sensitising substance>. May produce an allergic reaction.

EUH401: To avoid risks to human health and the environment, comply with the instructions for use.

H302: Harmful if swallowed.

H304: May be fatal if swallowed and enters airways.

H315: Causes skin irritation.

H317: May cause an allergic skin reaction.

H318: Causes serious eye damage.

H332: Harmful if inhaled.

H351: Suspected of causing cancer <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>.

H361fd: Suspected of damaging fertility. Suspected of damaging the unborn child.

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.

R20: Harmful by inhalation.

R22: Harmful if swallowed.

R38: Irritating to skin.

R40: Limited evidence of a carcinogenic effect.

R41: Risk of serious damage to eyes.

R43: May cause sensitisation by skin contact.

R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R50: Very toxic to aquatic organisms.

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R62: Possible risk of impaired fertility.

R63: Possible risk of harm to the unborn child.

R65: Harmful: may cause lung damage if swallowed.

R66: Repeated exposure may cause skin dryness or cracking.

Legal disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.