

## 1. IDENTIFICATION OF THE MIXTURE AND OF THE COMPANY

### 1.1 Product identifier

**Trade name**

Multi-Star 500

### 1.2 Relevant identified uses of the mixture and uses advised against

#### 1.2.1 Relevant identified uses

A suspension concentrate containing 500 g/litre chlorothalonil (41.3% w/w) for use as a protectant fungicide in winter and spring wheat, durum wheat, winter and spring barley, rye and triticale. For professional use only.

#### 1.2.2 Uses advised against

Do not use for any other purpose.

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

Albaugh Europe Sàrl  
World Trade Center Lausanne  
Avenue Gratta-Paille 2  
1018 Lausanne  
Switzerland

Telephone: + 41 21 799 9130  
Fax: + 41 21 799 9139  
Email: sds@albaugh.eu  
Web: www.albaugh.eu

### 1.4 Emergency telephone number

For advice on medical emergencies, fires or major spills: +44 (0) 1235 239 670

Available: 24 h  
Time Zone: GMT  
Language(s) of phone service: All EU languages

UK National Poisons Information Service: +44 (0)121 507 4123 (For health professionals only)

Available: 24h  
Time Zone: GMT  
Language(s) of phone service: English

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) no. 1272/2008 [CLP/GHS]

Signal word	Hazard class and category	Pictograms	Hazard statement
Warning	Acute Tox. 4	GHS07	H332 Harmful if inhaled
Warning	Eye Irrit. 2	GHS07	H319 Causes serious eye irritation
Warning	Skin Sens. 1	GHS07	H317 May cause an allergic skin reaction
Warning	STOT SE 3	GHS07	H335 May cause respiratory irritation
Warning	Carc. 2	GHS08	H351 Suspected of causing cancer
Warning	Aquatic Acute 1	GHS09	H400 Very toxic to aquatic life
Warning	Aquatic Chronic 1	GHS09	H410 Very toxic to aquatic life with long lasting effects

#### **Additional information**

For abbreviations, refer to Section 16.

### 2.2 Label elements

#### **Labelling according to Regulation (EC) no. 1272/2008**

Hazard pictograms



GHS07



GHS08



GHS09

Signal Word

Warning

Hazard Statements :

- H332: Harmful if inhaled
- H319: Causes serious eye irritation
- H317: May cause an allergic skin reaction
- H335: May cause respiratory irritation
- H351: Suspected of causing cancer
- H410: Very toxic to aquatic life with long lasting effects

! Precautionary Statements :

- General: P102: Keep out of reach of children.
- Prevention: P202: Do not handle until all safety precautions have been read and understood.  
P261: Avoid breathing spray  
P270: Do not eat, drink or smoke when using this product.  
P280: Wear protective gloves, protective clothing, eye protection and face protection.
- Response: P302+P352: IF ON SKIN: Wash with plenty of soap and water.  
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing  
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P312: Call a POISON CENTER/doctor if you feel unwell
- Storage: P405: Store locked up
- Disposal: P501: Dispose of contents/container to a licensed waste disposal contractor or collection site except for triple rinsed empty containers which can be disposed of as non-hazardous waste

Supplemental information:

- EUH208: Contains Chlorothalonil. May produce an allergic reaction
- EUH401: To avoid risks to human health and the environment, comply with the instructions for use.

**2.3 Other hazards**

None known

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

### 3.2 Mixtures

**Description of the mixture:**

Mixture of Chlorothalonil and co-formulants.

Chemical Name	CAS-No.	EC-No.	Index No.	Conc. (W/W)	CLP (Reg. 1272/2008) Classification
Chlorothalonil	1897-45-6	217-588-1	608-014-00-4	41.3 %	Acute Tox. 2; H330 Eye Dam. 1; H318 Skin Sens. 1; H317 STOT SE 3; H335 Carc. 2; H351 Aquatic Acute 1; H400 Aquatic Chronic 1; H410
Propane-1,2-diol	57-55-6	200-338-0	-	5-10%	-
Other ingredients				to 100%	Not classified

## ! Additional information

For full text of H-phrases and abbreviations, see Section 16.

## 4. FIRST AID MEASURES

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### 4.1 Description of first aid measures

#### **General notes:**

If symptoms occur after exposure to this product, seek medical attention immediately and show the product label or this SDS. Remove to fresh air and keep at rest. Do not allow smoking or eating. Take off all contaminated clothing and footwear. Comply with all the necessary protection and safety measures to avoid contamination in giving first aid.

#### **Following inhalation:**

Remove to fresh air and keep at rest in half-upright position. Administer artificial respiration if breathing has stopped and seek medical attention immediately.

#### **Following skin contact:**

Remove all contaminated clothing. Wash skin with soap and rinse with plenty of water. Seek medical attention if irritation arises. Wash clothes before re-use.

#### **Following eye contact:**

Immediately rinse with water. Holding eyes open, continue rinsing for 15 minutes at least. Remove contact lenses as soon as possible. Seek medical advice immediately.

#### **Following ingestion:**

If swallowed, DO NOT INDUCE VOMITING: seek medical advice immediately and show this container or label. Remove any residues from mouth and rinse it with plenty of water. Offer the casualty 1 or 2 glasses of water to drink. Never give anything by mouth to an unconscious person.

#### **Self-protection of first aider**

Personal protective equipment for first aid responders is recommended according to potential for exposure (refer to Section 8).

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

The symptoms and effects indicated in this section refer to an accidental exposure scenario.

#### **Following inhalation:**

Possible nasal irritation and discharge. No delayed effects expected.

#### **Following skin contact:**

Possible irritation and redness. May cause an allergic skin reaction following contact.

#### **Following eye contact:**

Possible serious irritation, redness and blurred vision. No delayed effects expected.

#### **Following ingestion:**

Possible mild gastrointestinal effects. May cause delayed effects.

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

No need to provide any special means/medicinal products for immediate treatment at the workplace.

#### **Notes for the doctor:**

No specific antidote. Treat symptomatically (decontamination, vital functions). Call a Poison Centre immediately for treatment advice. In case of ingestion gastric lavage may be necessary (with proper laryngeal control). Before emptying the stomach, assess the potential danger arising from lung aspiration against the product toxicity. Report to Albaugh Europe Sàrl any unusual symptoms occurring after exposure by any route.

## 5. FIRE FIGHTING MEASURES

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### 5.1 Extinguishing media

#### **Suitable extinguishing media:**

Carbon dioxide, water spray, alcohol-resistant foam, dry chemical for small fires, alcohol-resistant foam or water spray for large fires.

#### **Unsuitable extinguishing media:**

Solid water jet.

### 5.2 Special hazards arising from the mixture

#### **Hazardous combustion products**

Evolves toxic and corrosive fumes in fire including hydrogen chloride, oxides of carbon and oxides of nitrogen.

### 5.3 Advice for fire-fighters

Clothing conforming to EN469 should be sufficient to deal with fires involving the mixture. However, a Self-Contained Breathing Apparatus (SCBA) may be required if there is a potential for exposure to combustion fumes.

#### **5.4 Additional information**

Provide storage and work areas with suitable fire extinguishers.

Call the Fire Brigade at once to deal with all fires involving pesticides unless the fire is small and immediately controllable. Spray unopened containers with a mist spray to keep cool. If without risk, remove intact containers from exposure to fire. Contain fire-fighting water, bunding if necessary with sand or earth. Do not allow contamination of public drains or surface or ground waters. Dispose of fire debris and contaminated water as advised in the MAFF/HSE "Pesticides: Code of Practice for the Safe Use of Pesticides on Farms and Holdings".

## **6. ACCIDENTAL RELEASE MEASURES**

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

#### **6.1.1 For non-emergency personnel**

Protective equipment: Remove immediately any contaminated clothing. Wear prescribed personal protective equipment to prevent contact with eyes and skin. A Self-Contained Breathing Apparatus (SCBA) may be required if there is an elevated risk for exposure.

Emergency procedures: Call the emergency services if the release is not immediately controllable. If the release is localized and immediately controllable, provide sufficient ventilation and control the release at its source.

#### **6.1.2 For emergency responders**

Clothing conforming to EN469.

### **6.2 Environmental precautions**

Use appropriate containment to avoid environmental contamination. Control the release at its source. Contain the spill to prevent it from spreading, contaminating soil or entering sewage and drainage systems or any body of water. Inform the local water company if the release enters drains and the Environment Agency (England and Wales), the Scottish Environmental Protection Agency (Scotland) or the Environment and Heritage Service (Northern Ireland) if it enters surface or ground waters.

### **6.3 Methods and material for containment and cleaning up**

#### **For containment**

Clean up spills immediately and place in a compatible disposal container. Contain spill by diking with earth, sand or absorbent material and place into a compatible marked disposal container.

#### **For cleaning up**

Scrub area with a hard water detergent. Soak up wash liquid with additional absorbent material and place into a compatible marked disposal container. Seal container and arrange for disposal.

#### **Other information**

Not Applicable

### **6.4 Reference to other sections**

Refer to Section 8 for personal protective equipment and to Section 13 for disposal instructions.

## **7. HANDLING AND STORAGE**

### **7.1 Precautions for safe handling**

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Provide suitable ventilation in the areas where the product is stored and used. Contaminated work clothing should not be allowed out of the workplace. Avoid all contact by mouth, with eyes and skin. Wear personal protective equipment as specified in Section 8. When using, do not eat, drink or smoke. Remove contaminated clothing and protective equipment before meals and after work. Wash hands and exposed skin before meals and after work. Wash all protective clothing thoroughly after use, especially the insides of gloves.

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

The mixture is stable under normal ambient conditions. Keep in original container, in a dry, cool and safe place. Store in a locked, suitable store. Keep away from any source of ignition. Keep out of the reach of children and unauthorised personnel. Keep away from food, drink and animal feeding stuffs.

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

Product for professional use as directed by the product label, every other use is hazardous.

## 8. EXPOSURE CONTROL/PERSONAL PROTECTION

### 8.1 Control Parameters

#### Occupational Exposure limit values (UK)

Occupational Exposure limit values have been set for the following components.

Component	Occupational Exposure Levels					Reference
	8h –TWA		Short-term			
	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	ppm		
Chlorothalonil 1897-45-6	0.1					Supplier
Propylene glycol 57-55-6	474	150	-	-	total vapour and particulates	UK - EH40
	10	-	-	-	particulates	

#### Information on monitoring procedures

None available.

### 8.2 Exposure controls

#### 8.2.1 Appropriate engineering controls

Engineering controls and appropriate work processes must be used to eliminate or reduce worker and environmental exposure in the areas where the substance is handled, transported, loaded, unloaded, stored and used. These measures must be adequate for the extent of the actual risk. Provide adequate local exhaust ventilation. Use specialized transfer systems if available.

#### 8.2.2 Personal protection equipment

##### Eye and face protection

Avoid contact with eyes. If there is a significant potential for contact, wear suitable eye and face protection (EN 166).

##### Skin protection:

**Hand protection:** Wear suitable protective gloves against chemicals (EN 374 part 1, 2, 3). Nitrile rubber min. 0.5mm thick and 300mm long gloves are the ones proven to be the most suitable according to tests on pesticide products.

Wash the gloves thoroughly after each use, especially the insides. Replace gloves if damaged and before exceeding the breakthrough time.

**Body protection:** Avoid contact with skin. If there is a significant potential for contact, wear suitable coveralls (ISO 13982-1, Type 5, EN 13034, Type 6).

**Other skin protection:** None specified.

**Respiratory protection:** No special requirement when used as recommended. If a risk assessment shows that engineering controls do not provide adequate respiratory protection to exposure to spray particles, wear particle filtering half mask (EN 149) or half mask connected to particle filter (EN 140 + 143).

#### 8.2.3 Environmental exposure controls

Implement all applicable local and community environmental protection legislation. Refer to Section 15. Use appropriate containment to avoid environmental contamination. Do not empty into drains. Do not contaminate water with the product or used container. Do not clean application equipment near surface water. Avoid contamination via drains from farmyards and roads. Refer to Section 12 and 13.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

- |  |   |
|--|---|
| a) <i>Appearance:</i>                              | Liquid  |
| <i>Colour:</i>                                     | Off-white   |
| b) <i>Odour:</i>                                   | Faint   |
| c) <i>Odour threshold:</i>                         | Not determined – not required under all applicable pesticide legislation. |
| d) <i>pH:</i>                                      | 6.4 (1% diluted)  |
| e) <i>Melting point/freezing point:</i>            | Not applicable  |
| f) <i>Initial boiling point and boiling range:</i> | Approx. 100°C   |
| g) <i>Flash point:</i>                             | Does not flash  |

<i>h) Evaporation rate:</i>	Not available - not required under all applicable pesticide legislation.
<i>i) Flammability (solid, gas):</i>	The mixture is not highly flammable
<i>j) Upper/lower flammability or explosive limits:</i>	The mixture is not highly flammable and not explosive
<i>k) Vapour pressure:</i>	Not available
<i>l) Vapour density:</i>	Not applicable - not required under all applicable pesticide legislation.
<i>m) Density (relative):</i>	1.21 kg/l
<i>n) Solubility(ies)</i>	
<i>Solubility (water):</i>	Not soluble but forms a stable dispersion in water
<i>o) Partition coefficient: n-octanol/water:</i>	Not available
<i>p) Auto-ignition temperature (relative):</i>	Not available
<i>Minimum Ignition Temperature:</i>	Not available
<i>Minimum Ignition Energy:</i>	Not available
<i>q) Decomposition temperature:</i>	Not available
<i>r) Viscosity:</i>	472 mPa.s at 20°C; 317 mPa.s at 40°C
<i>s) Explosive properties:</i>	Explosion hazard: not explosive.
<i>t) Oxidising properties:</i>	Not an oxidising agent.

## **9.2 Other information**

*Surface tension* 36.2 mN/m

## **10. STABILITY AND REACTIVITY**

### **10.1 Reactivity**

Non-reactive when stored in original container under normal conditions of storage and use.

### **10.2 Chemical stability**

Stable when stored in original container under normal conditions of storage and use.

### **10.3 Possibility of hazardous reactions**

No hazardous reactions when stored in original container under normal conditions of storage and use.

### **10.4 Conditions to avoid**

Do not store in proximity of sources of ignition and direct sunlight.

### **10.5 Incompatible materials**

None.

### **10.6 Hazardous decomposition products**

During decomposition evolves toxic fumes including hydrogen chloride and oxides of carbon, and nitrogen.

## **11. TOXICOLOGICAL INFORMATION**

### **11.1.2 Mixtures**

All data contained in this section are derived from actual test data on the mixture unless otherwise stated.

#### **a) Acute toxicity:**

**LD<sub>50</sub> oral, rat:** >4200 mg/kg bw

**LD<sub>50</sub> dermal, rabbit:** >20000 mg/kg bw

**LC<sub>50</sub> inhalation, rat (4h):** >1.96 mg/l air

**b) Skin** Slightly irritating (not classified as a skin irritant under Regulation (EC) 1272/2008)

**corrosion/irritation:**

**c) Serious eye** Moderately irritating (classified as Eye Irrit. 2 under Regulation (EC) 1272/2008)

**damage/irritation:**

**d) Respiratory or skin** Sensitizing - The product is classified as Skin Sens. 1 under Regulation (EC) 1272/2008

**sensitization:**

**e) Germ cell** Not classified as mutagenic on the basis of mixture component information

**mutagenicity:**

**f) Carcinogenicity:** Classified as Carc. 2 on the basis of mixture component information

**g) Reproductive toxicity:** Not classified as a reproductive toxicant on the basis of mixture component information

- h) STOT – single exposure:** Classified as STOT-SE 3 on the basis of mixture component information
- i) STOT – repeated exposure:** Not classified as hazardous for repeated dose toxicity on the basis of mixture component information
- j) Aspiration hazard:** Not classified as hazardous by aspiration on the basis of mixture component information.

**Likely routes of exposure and related long and short term symptoms and health effects:**

The symptoms and effects indicated in this section refer to an accidental exposure scenario deriving from the correct use of the mixture.

**Inhalation:** There is a low risk of exposure by inhalation.

Short-term symptoms and effects:

Possible nasal irritation and discharge.

Long-term symptoms and effects:

Possible respiratory irritation related to the mixture after a single exposure. Prolonged or repeated exposure may cause long-term effects.

**Eye contact:** There is a risk of exposure by eye contact.

Short-term symptoms and effects:

Possible serious irritation, redness and blurred vision.

Long-term symptoms and effects:

Prolonged or repeated exposure may cause long-term effects.

**Skin contact:** There is a risk of exposure by skin contact.

Short-term symptoms and effects:

Possible irritation and redness.

Long-term symptoms and effects:

May cause an allergic skin reaction following repeated exposure.

**Ingestion:** There is a very low risk of exposure by accidental ingestion.

Short-term symptoms and effects:

Possible mild gastrointestinal effects.

Long-term symptoms and effects:

Prolonged or repeated exposure may cause long-term effects.

## 12. ECOLOGICAL INFORMATION

All the information and data contained in this section are derived from the a.i. Chlorothalonil.

### 12.1 Toxicity

**Acute Toxicity**

**LC<sub>50</sub> fish, *Oncorhynchus mykiss* (96h):** 0.195 mg/l

**LC<sub>50</sub> aquatic invertebrates, *Daphnia magna* (24h):** >5.6 mg/l

**EC<sub>50</sub> algae, *Pseudokichneriella subcapitata* (72h):** 0.521 mg/l

### 12.2 Persistence and degradability:

Not persistent

### 12.3 Bioaccumulative potential:

Low bioaccumulation potential

### 12.4 Mobility in soil:

Low mobility in soil

### 12.5 Results of PBT and vPvB assessment:

No PBT or vPvB assessments have been carried out on the mixture; please refer to 12.1, 12.2 & 12.3.

### 12.6 Other adverse effects:

Not determined.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

Disposal of waste product, contaminated packaging materials and any excess diluted spray should be in accordance with 'The Hazardous Waste (England and Wales) Regulations 2005' and any other applicable local or national legislation (for guidance refer to the MAFF/HSE "Pesticides: Code of Practice for the Safe Use of Pesticides on Farms and Holdings").

For the handling and management of accidental release, follow the information given under Section 6 and 7.

## 14. TRANSPORT INFORMATION

### 14.1 UN number

UN 3082

### 14.2 UN Proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(Contains: Chlorothalonil)

**14.3 Transport hazard class(es)**

9

**14.4 Packing group**

III

**14.5 Environmental hazards**

Land transport ADR/RID - Environmentally Hazardous: Yes  
Maritime transport IMDG - Marine pollutant: Yes

**Note :** When transported in packages of 5 litres and less (UN3082) these goods are exempt from the main requirements of the transport regulations by virtue of Special Provision 375 of the ADR regulations 2015 for transport by road, Section 2.10.2.7 of the IMDG code 37-14 for transport by sea, and Special Provision A197 of the IATA 56th Edition regulations for transport by air

**14.6 Special Precautions for User**

Land transport ADR/RID - Tunnel restriction code: -

**14.7 Transport in bulk according to Annex II of**

IBC Code: IBC03

**MARPOL and the IBC Code**

## 15. REGULATORY INFORMATION

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

**EU Regulations**

REGULATION (EC) No 1107/2009 of The European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC.

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, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

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), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.

COMMISSION REGULATION (EU) No 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

**National Regulations/legislation:**

The Chemicals (Hazard Information & Packaging for Supply) Regulations 2009 (CHIP 4)

Health and Safety at Work etc. Act 1974, as amended, the Control of Substances Hazardous to Health Regulations 1999 (COSHH), as amended.

**15.2 Chemical Safety Assessment**

No Chemical Safety Assessment under Regulation (EC) 1907/2006 is required and has not been carried out.

## 16. OTHER INFORMATION

**a) Indication of changes:**

The numbering system identifying new versions and/or revisions of this SDS is incremental. An increment by an integer number identifies the issue of a new version requiring provision of updates according to Article 31(9) of REACH, while an increment by a decimal identifies minor changes such as typographical errors, text improvements and/or formatting.

Revisions indicated by a decimal point do not affect the risk management measures or information on hazards, do not refer to restrictions imposed and/or to authorisations granted or refused.

The paragraphs where changes have been made are indicated by the symbol '!' in the margin.

Differences between this version and the previous one: Insertion of the new logo of the company, Update following the entry into force of Reg (EC) 2015/830, minor corrections

**b) Abbreviations and acronyms:**

Acute Tox. 2: Acute Toxicity Category 2

Acute Tox. 4: Acute Toxicity Category 4

Eye Dam. 1: Serious Eye Damage Category 1

Eye Irrit. 2: Eye Irritation Category 2

Skin Sens. 1: Skin Sensitization Category 1

STOT SE 3: Specific Target Organ Toxicity – Single Exposure Category 3

Carc. 2: Carcinogenicity Category 2

Aquatic Acute 1: Hazardous to the aquatic Environment, Acute Aquatic Hazard Category 1



Aquatic Chronic 1: Hazardous to the aquatic Environment, Long term Aquatic Hazard Category 1

**c) Key literature references and sources for data:**

Albaugh Europe Sàrl  
ECHA Guidance on the compilation of safety data sheets  
ECHA Guidance on the application of the CLP criteria

**d) Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]**

<b>Classification according to Regulation (EC) Nr. 1272/2008</b>	<b>Classification procedure</b>
Acute Tox. 4 – H332	On basis of calculation
Eye Irrit. 2 – H319	On basis of conversion
Skin Sens. 1 – H317	On basis of conversion
STOT SE 3 – H335	On basis of calculation
Carc. 2 – H351	On basis of calculation
Aquatic Acute 1 – H400	On basis of calculation
Aquatic Chronic 1 – H410	On basis of calculation

**e) Relevant H-statements and precautionary statements not written out in full under Sections 2 to 15:**

H318: Causes serious eye damage  
H330: Fatal if inhaled

**f) Training advice:**

General occupational hygiene training recommended.

**g) Further information:**

The information and recommendations in this publication are, to the best of our knowledge, information and belief, accurate at the date of publication. Nothing herein is to be construed as a warranty, expressed or implied. In all cases it is the responsibility of the user to determine the applicability of such information or the suitability of any products for their own particular purpose. This Material Safety Data Sheet was compiled by Albaugh Europe Sàrl (sds@albaugh.eu) in compliance with Regulation (EC) 1907/2006 as amended by 2015/830.