CLAYTON PLANT PROTECTION

CLAYTON TURRET Safety Data Sheet according to Regulation (EC) No. 1272/2008 and 1999/45/EC or 67/548/EEC.

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

1.1 Product identifier

Product name : CLAYTON TURRET

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

Use : Fungicide

1.3 Details of the supplier of the safety data sheet

Company: Clayton Plant Protection (UK) Ltd., Bracetown Business Park, Clonee, Dublin15. Ireland.

Tel: (00 353) 1 8210127 www.cpp.ag Email: info@cpp.ag

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EU) 1272/2008

Skin sensitisation - Category 1 - H317
Eye irritation - Category 2 - H319
Acute toxicity (inhalation) - Category 4- H332
Specific Target Organ toxicity - single exposure - Category 3 - H335
Carcinogenicity - Category 2 - H351
Acute aquatic toxicity - Category 1 - H400
Chronic aquatic toxicity Category 1 H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Xn - Harmful
N, Dangerous for the environment
R20 - Harmful by inhalation
R36/37 - Irritating to eyes and respiratory system
R40 - Limited evidence of a carcinogenic effect
R43 - May cause sensitisation by skin contact

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

2.2 Label elements

Labelling: Regulation (EC) No. 1272/2008

Hazard Pictograms:

Signal Word:	Warning	
Hazard Statements:	H317	May cause allergic skin reaction
	H319	Causes serious eye irritation
	H332	Harmful if inhaled
	H335	May cause respiratory irritation
	H351	Suspected of causing cancer
	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.
	P302/P352	IF ON SKIN: Wash with plenty of soap and water
	P305/P351/P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if easy to do. Continue rinsing.
	P308/P313	If exposed or concerned: Get medical advice/attention.
	P391	Collect spillage
	P501	Dispose of contents/container to a licensed hazardous waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.
	EUH401	To avoid risks to human health and the environment, comply with the instructions for use.

Hazardous components which must be listed on the label:

Chlorothalonil

Labelling EU Directive 67/548/EEC or 1999/45/EC

Symbols:

Harmful Dangerous for the environment

R-Phrases	R20	Harmful by inhalation
	R36/37	Irritating to eyes and respiratory system
	R40	Limited evidence of a carcinogenic effect
	R43	May cause sensitisation by skin contact
	R50/53	Very toxic to aquatic organisms; may cause long term adverse effects in the aquatic environment
S-Phrases	S2	Keep out of the reach of children
	S13	Keep away from food, drink and animal feeding stuffs
	S20/21	When using do not eat, drink or smoke
	S35	This material and its container must be disposed of in a safe way
	S36/37	Wear suitable protective clothing and gloves
	S57	Use appropriate containment to avoid environmental contamination
Special labelling of certain mixtures		To avoid risks to man and the environment, comply with instructions for use

Hazardous components which must be listed on the label:

Chlorothalonil

2.3 Other hazards

None known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Hazardous components

Component	CAS No.	Classification (677/548/EEC)	Classification (EC/1272/2008)	Concentration
Chlorothalonil	1897-45-6 217-588-1	T+, N R26 R37 R40 R41 R43 R50/53	Skin sens. 1; H317 Eye Dam. 1; H318 Acute Tox.2; H330 STOT SE3; H335 Carc.2; H351 Aquatic acute 1; H400 Aquatic Chronic 1; H410	40% w/w
Propane-1,2-diol	57-55-6 200-338-0	-	-	5-10% w/w

For the full text of the R-Phrases mentioned here, see section 16
For the full text of the H statements mentioned here, see section 16

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General advice : Have the product container, label or Material Safety Data Sheet with you when calling an emergency number, a poison control centre or physician, or going for treatment.

Inhalation : Move the victim to fresh air. If breathing is irregular or stopped, administer artificial respiration. Keep patient warm and at rest. Call a physician or poison control centre immediately.

Skin contact : Take off all contaminated clothing immediately. Wash off immediately with plenty of water. If skin irritation persists, call a physician. Wash contaminated clothing before re-use.

Eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Immediate medical attention is required.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : No information available

4.3 Indication of any immediate medical attention and special treatment needed

Medical advice : There is no specific antidote available. Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Extinguishing media - small fires
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Extinguishing media - large fires
Use alcohol-resistant foam or water spray.
Do not use a solid water stream as it may scatter and spread fire.

5.2 Special hazards arising from the substance or mixture

As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10). Exposure to decomposition products may be a hazard to health.

5.3 Advice for fire-fighters:

Wear full protective clothing and self-contained breathing apparatus. Do not allow run-off from fire fighting to enter drains or water courses. Cool closed containers exposed to fire with water spray.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Refer to protective measures listed in sections 7 and 8.

6.2 Environmental precautions:

Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system.

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). If the product contaminates rivers and lakes or drains inform respective authorities.

6.4 Reference to other sections

Refer to protective measures listed in sections 7 and 8.
Refer to disposal considerations listed in section 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

No special protective measures against fire required. Avoid contact with skin and eyes. When using do not eat, drink or smoke. For personal protection see section 8.

7.2 Conditions for safe storage, including any incompatibilities

No special storage conditions required. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from food, drink and animal feeding stuffs.

7.3 Specific end use(s)

Registered Crop Protection products: For proper and safe use of this product, please refer to the approval conditions laid down on the product label.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Component	Exposure limits	Type of exposure limit	Source
Chlorothalonil	0.1 mg/m3	8h TWA	Syngenta
Propane-1,2-diol	10 mg/m3 (particulates) 150 ppm, 470 mg/m3 (Total (vapour and particulates))	8h TWA 8h TWA	UK HSE UK HSE

The following recommendations for exposure controls/personal protection are intended for the manufacture, formulation and packaging of the product.

8.2 Exposure controls

Engineering measures : Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated. The extent of these protection measures depends on the actual risks in use. If airbornedust is generated, use local exhaust ventilation controls. Assess exposure and use any additional measures to keep airborne levels below any relevant exposure limit. Where necessary, seek additional occupational hygiene advice.

Protective measures The use of technical measures should always have priority over the use of personal protective equipment. When selecting personal protective equipment, seek appropriate professional advice. Personal protective equipment should be certified to appropriate standards.

Respiratory protection A combination gas, vapour and particulate respirator may be necessary until effective technical measures are installed. Protection provided by air purifying respirators is limited. Use a self-contained breathing apparatus in cases of emergency spills, when exposure levels are unknown, or under any circumstances when air-purifying respirators may not provide adequate protection.

Hand protection Chemical resistant gloves should be used. Gloves should be certified to an appropriate standard. Gloves should have a minimum breakthrough time that is appropriate to the duration of exposure.

The breakthrough time of gloves varies according to thickness, material and manufacturer. Gloves should be changed when breakthrough is suspected. Suitable material: nitrile rubber.

Eye protection If eye contact is possible, use tight-fitting chemical safety goggles and a faceshield.

Skin and body protection Assess the exposure and select chemical resistant clothing based on the potential for contact and the permeation/penetration characteristics of the clothing material. Wash with soap and water after removing protective clothing. Decontaminate clothing before re-use, or use disposable equipment (suits, aprons, sleeves, boots etc.). Wear as appropriate: impervious protective suit.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical State : Liquid
Form : Liquid
Colour : Grey white to light beige
Odour : Pungent mild
Odour Threshold : No data available
pH : 5-9 at 1% w/v
Melting point/range : -5oC
Boiling point/boiling range : >100oC
Flash point : > 99 °C at 99.6 kPa Pensky-Martens c.c.
Density : 1.24 g/ml
Solubility in other solvents : No data available
Explosive properties : Not explosive
Oxidizing properties : Not oxidising

9.2 Other information

No data available

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity : No information available

10.2 Chemical Stability : No information available

10.3 **Possibility of hazardous reactions**: None known. Hazardous polymerisation does not occur.

10.4 Conditions to avoid : No information available

10.5 Incompatible materials : No information available

10.6 Hazardous decomposition : Combustion or thermal decomposition will evolve toxic and irritant vapours.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute oral toxicity : LD50 rat, 4,200 mg/kg
Acute inhalational toxicity : LC50 rat, > 1.96 mg/l, 4h
Acute dermal toxicity : LD50 rabbit, >20,000 mg/kg
Skin corrosion/irritation : Rabbit: mildly irritating
Serious eye damage/eye irritation : Rabbit: moderately irritating
Respiratory or skin sensitisation : Buehler test guinea pig: a skin sensitiser in animal tests
Germ cell mutagenicity : Chlorothalonil did not show mutagenic effects in animal experiments.
Carcinogenicity : Chlorothalonil causes kidney tumours in rats and mice via a non genotoxic mode of action secondary to target organ toxicity
Reproductive toxicity : Chlorothalonil did not show reproductive toxicity effects in animal experiments.
STOT - single exposure: May cause respiratory irritation.
STOT – repeated exposure : No adverse effect has been observed in chronic toxicity tests.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish : LC50 Oncorhynchus mykiss (rainbow trout), 0.195 mg/l, 96 h
Toxicity to aquatic invertebrates: EC50 Daphnia magna (Water flea), 0.180 mg/l, 24 h
Toxicity to aquatic plants : ErC50 Pseudokirchneriella subcapitata (green algae), 0.53mg/l, 96 h

12.2 Persistence and degradability
Stability in water : (chlorothalonil) Degradation half life: <5d d. Not persistent in water.
Stability in soil : (chlorothalonil) Degradation half life: 7 d. Not persistent in soil

12.3 Bioaccumulative potential
Chlorothalonil has low potential for bioaccumulation.

12.4 Mobility in soil
Chlorothalonil has low to slight mobility in soil.

12.5 Results of PBT and vPvB assessment
Chlorothalonil is not considered to be persistent, bioaccumulating or toxic (PBT).
Chlorothalonil is not considered to be very persistent nor very bioaccumulative (vPvB)

12.6 Other adverse effects : None known

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
Product : Do not contaminate ponds, waterways or ditches with chemical or used container. Do not dispose of waste into sewer. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations.

Contaminated packaging : Empty remaining contents. Triple rinse containers. Empty containers should be taken for local recycling or waste disposal. Do not re-use empty containers.

SECTION 14: TRANSPORT INFORMATION

Land transport (ADR/RID)

14.1 UN Number : UN 3082
14.2 UN proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CHLOROTHALONIL)
14.3 Transport hazard class(es) : 9
14.4 Packing Group ; III
Labels : 9
14.5 Environmental hazards : Environmentally hazardous

Sea transport(IMDG)

14.1 UN Number : UN 3082
14.2 UN proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CHLOROTHALONIL)
14.3 Transport hazard class(es) : 9

14.4 Packing Group ; III
Labels : 9
14.5 Environmental hazards : Marine Pollutant

Air transport (IATA-DGR)

14.1 UN Number : UN 3082
14.2 UN proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CHLOROTHALONIL)
14.3 Transport hazard class(es) : 9
14.4 Packing Group ; III
Labels : 9
14.6 Special precautions for user: none
14.6 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable

SECTION 15: REGULATORY INFORMATION

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

GHS-Labelling

Hazard Pictograms:

Signal Word:	Warning	
Hazard Statements:	H317	May cause allergic skin reaction
	H319	Causes serious eye irritation
	H332	Harmful if inhaled
	H335	May cause respiratory irritation
	H351	Suspected of causing cancer
	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.
	P302/P352	IF ON SKIN: Wash with plenty of soap and water
	P305/P351/P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if easy to do. Continue rinsing.
	P308/P313	If exposed or concerned: Get medical advice/attention.
	P391	Collect spillage
	P501	Dispose of contents/container to a licensed hazardous waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.
	EUH401	To avoid risks to human health and the environment, comply with the instructions for use.

15.2 Chemical Safety Assessment: A chemical safety assessment is not required for this substance

SECTION 16: OTHER INFORMATION

Further information : Approval number: MAPP 17220.

Use plant protection products safely. Always read the label and product information before use.

Full text of R-phrases referred to under sections 2 and 3:

R26	Very toxic by inhalation
R37	Irritating to respiratory system
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

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

H317	May cause allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H330	Fatal if inhaled
H332	Harmful if inhaled
H335	May cause respiratory irritation
H351	Suspected of causing cancer
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

The information provided in this 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.