

CLAYTON PLANT PROTECTION

CLAYTON PROUD Safety Data Sheet according to Regulation (EU) No. 453/2010. Version 1/dsc 17Apr2015

This version replaces all previous versions.

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

1.1. Product identifier CLAYTON PROUD

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

Relevant identified uses: crop protection product, growth regulator

1.3. Details of the supplier of the safety data sheet Clayton Plant Protection (UK) Ltd., Bracetown Business Park, Clonee, Dublin 15. Ireland. Tel: (00 353) 1 8210127 www.claytonpp.com Email: info@claytonpp.com

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture According to Regulation (EC) No 1272/2008 [CLP]

Met. Corr. 1 Acute Tox. 4 (oral) Aquatic Chronic 4

According to Directive 67/548/EEC or 1999/45/EC

Possible Hazards: Harmful if swallowed. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Full text can be found in section 16.

2.2. Label elements

Globally Harmonized System (GHS) in accordance with UK regulations.

Pictogram:

Signal Word: Warning



Hazard Statement:

H290 May be corrosive to metals.

H302 Harmful if swallowed.

H413 May cause long lasting harmful effects to aquatic life.

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

Precautionary Statements (Prevention):

P234 Keep only in original container.

P264 Wash with plenty of water and soap thoroughly after handling. P270

Do not eat, drink or smoke when using this product.

Precautionary Statements (Response):

P390 Absorb spillage to prevent material damage.

P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. P330

Rinse mouth.

Precautionary Statements (Disposal):

P501.1 Dispose of contents/container in accordance with local regulations.

According to Regulation (EC) No 1272/2008 [CLP]

Hazard determining component(s) for labelling: 2-CHLOROETHYLPHOSPHONIC ACID, MEPIQUATCHLORIDE

According to Directive 67/548/EEC or 1999/45/EC

Classification/labelling in accordance with UK regulations.

Hazard symbol(s) Xn Harmful.



R-phrase(s)

R22 Harmful if swallowed.

R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrase(s)

S2 Keep out of the reach of children.

S13 Keep away from food, drink and animal feeding stuffs.

S23 Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).

S35 This material and its container must be disposed of in a safe way.

S46 If swallowed, seek medical advice immediately and show this container or label.

S57 Use appropriate container to avoid environmental contamination.

Hazard determining component(s) for labelling: 2-CHLOROETHYLPHOSPHONIC ACID, MEPIQUATCHLORIDE

2.3. Other hazards

According to Regulation (EC) No 1272/2008 [CLP] See section 12 – Results of PBT and vPvB assessment. If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

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SECTION 3: Composition/Information on Ingredients

3.1. Substances : Not applicable

3.2. Mixtures

Chemical nature : crop protection product, growth regulator, Soluble concentrate (SL) Hazardous ingredients (GHS) according to Regulation (EC) No. 1272/2008

1,1-dimethylpiperidinium chloride; mepiquat chloride

Content (W/W): 28 % Acute Tox. 4 (oral)

CAS Number: 24307-26-4 Aquatic Chronic 3 H302, H412

2-chloroethylphosphonic acid; ethephon

Content (W/W): 14.2 % Acute Tox. 4 (Inhalation – dust)

CAS Number: 16672-87-0 Acute Tox. 4 (dermal)

EC-Number: 240-718-3 Skin Corr./Irrit. 1B. Aquatic Chronic 3 H314, H312, H332, H412 Hazardous

ingredients according to Directive 1999/45/EC

1,1-dimethylpiperidinium chloride; mepiquat chloride Content (W/W): 28 %

CAS Number: 24307-26-4 Hazard symbol(s): Xn R-phrases(s): 22, 52/53

2-chloroethylphosphonic acid; ethephon : Content (W/W): 14.2 % CAS Number: 16672-87-0

EC-Number: 240-718-3 Hazard symbol(s): C R-phrases(s): 20/21, 34, 52/53

For the classifications not written out in full in this section, including the indication of danger, the hazard symbols, the R phrases, and the hazard statements, the full text is listed in section 16.

SECTION 4: First-Aid Measures

4.1. Description of first aid measures : Show container, label and/or safety data sheet to physician. If inhaled: Keep patient calm, remove to fresh air, seek medical attention. On skin contact: Wash thoroughly with soap and water. On contact with eyes: Wash affected eyes for at least 15 minutes under running water with eyelids held open. On ingestion: Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

4.2. Most important symptoms and effects, both acute and delayed : Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., Further important symptoms and effects are so far not known.

4.3. Indication of any immediate medical attention and special treatment needed : Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing media Suitable extinguishing media: water spray, foam, dry powder, carbon dioxide

5.2. Special hazards arising from the substance or mixture : The substances/groups of substances mentioned may be released in case of fire. Carbon monoxide, hydrogen chloride, carbon dioxide, nitrogen oxides, phosphorus compounds, organochloric compounds

5.3. Advice for fire-fighters Special protective equipment: Wear self-contained breathing apparatus and chemical-protective clothing. Further information: Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations. In case of fire and/or explosion do not breathe fumes. Keep containers cool by spraying with water if exposed to fire.

SECTION 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures Do not breathe vapour/spray. Use personal protective clothing. Avoid contact with the skin, eyes and clothing.

6.2. Environmental precautions Do not allow contamination of public drains or surface or ground waters. Inform local water plc if spillage enters drains and the Environment Agency (England & Wales), the Scottish Environmental Protection Agency (Scotland), or the Environment and Heritage Service (Northern Ireland) if it enters surface or ground waters. Keep people and animals away.

6.3. Methods and material for containment and cleaning up.

For small amounts: Pick up with suitable absorbent material (e.g. sand, sawdust, general-purpose binder, kieselguhr). For large amounts: Dike spillage. Pump off product. Dispose of absorbed material in accordance with regulations. Collect waste in suitable containers, which can be labelled and sealed. Clean contaminated floors and objects thoroughly with water and detergents, observing environmental regulations.

6.4. Reference to other sections Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

SECTION 7: Handling and Storage

7.1. Precautions for safe handling No special measures necessary if stored and handled correctly. Ensure thorough ventilation of stores and work areas. When using do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift. Protection against fire and explosion: No special precautions necessary. The substance/product is non-combustible. Product is not explosive.

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7.2. Conditions for safe storage, including any incompatibilities Segregate from foods and animal feeds. Further information on storage conditions: Keep away from heat. Protect from direct sunlight.

7.3. Specific end use(s) For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

SECTION 8: Exposure Controls/Personal Protection 8.1.

Control parameters.

Components with occupational exposure limits : No occupational exposure limits known. Refer to the current edition of HSE Guidance Note EH40 Occupational Exposure Limits (United Kingdom). For normal use and handling refer to the product label/leaflet. In all other cases the following apply.

8.2. Exposure controls

Personal protective equipment : Respiratory protection: Suitable respiratory protection for higher concentrations or long-term effect: Combination filter for gases/vapours of organic, inorganic, acid inorganic and alkaline compounds (e.g. EN 14387 Type ABEK).

Hand protection: Suitable chemical resistant safety gloves (EN 374) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm) and other

Eye protection: Safety glasses with side-shields (frame goggles) (e.g. EN 166)

Body protection: Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

General safety and hygiene measures : The statements on personal protective equipment in the instructions for use apply when handling crop protection agents in final-consumer packing. Wearing of closed work clothing is recommended. Store work clothing separately. Keep away from food, drink and animal feeding stuffs.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Form:	liquid
Colour:	colourless, clear
Odour:	aromatic
Odour threshold:	Not determined due to potential health hazard by inhalation.
pH value:	approx. 0.5 – 1 (20 °C) (measured with the undiluted substance)
crystallization temperature:	approx. -14.9 °C
Boiling point:	approx. 100 °C
Flash point:	No flash point – Measurement (DIN EN 22719; ISO 2719) made up to the boiling point.
Evaporation rate:	not applicable
Flammability:	Based on the structure or composition there is no indication of flammability
Lower explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.
Upper explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.
Ignition temperature:	approx. 415 °C (Directive 92/69/EEC, A.15)
Vapour pressure:	approx. 23 hPa (20 °C) Information applies to the solvent.
Density	approx. 1.09 g/cm ³ (20 °C)
Relative vapour density (air):	not determined
Solubility in water:	fully soluble Information on: 1,1-dimethylpiperidinium chloride; mepiquat chloride
Partitioning coefficient n-octanol/water (log Kow):	-3.55 (pH value: 7) (OECD Guideline 107) Information on: 2-chloroethylphosphonic acid; ethephon Partitioning coefficient n-octanol/water (log Kow): 0.05 (25 °C) (calculated)
Thermal decomposition:	No decomposition if correctly stored and handled
Viscosity, dynamic	approx. 4.1 mPa.s (20 °C)
Explosion hazard:	Based on the chemical structure there is no indicating of explosive properties
Fire promoting properties:	Based on its structural properties the product is not classified as oxidizing.

9.2. Other information : If necessary, information on other physical and chemical parameters is indicated in this section.

SECTION 10: Stability and Reactivity

10.1. Reactivity No hazardous reactions if stored and handled as prescribed/indicated. Corrosion to metals: aluminium

10.2. Chemical stability The product is stable if stored and handled as prescribed/indicated.

10.3. Possibility of hazardous reactions No hazardous reactions if stored and handled as prescribed/indicated.

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10.4. Conditions to avoid See MSDS section 7 – Handling and storage.

10.5. Incompatible materials Substances to avoid: strong oxidizing agents, strong bases, strong acids

10.6. Hazardous decomposition products Hazardous decomposition products: No hazardous decomposition products if stored and handled as prescribed/indicated.

SECTION 11: Toxicological Information

11.1. Information on toxicological effects

Acute toxicity Assessment of acute toxicity: Of moderate toxicity after single ingestion. Virtually nontoxic by inhalation. Virtually nontoxic after a single skin contact.

Experimental/calculated data: LD50 rat (oral): > 500 – < 2,000 mg/kg (OECD Guideline 423) LC50 rat (by inhalation): > 5.3 mg/l 4 h (OECD Guideline 403) An aerosol was tested. LD50 rat (dermal): > 4,000 mg/kg (OECD Guideline 402) Irritation : Experimental/calculated data: Skin corrosion/irritation rabbit: non-irritant (OECD Guideline 404) Serious eye damage/irritation: Irritant.

Respiratory/Skin sensitization : Assessment of sensitization: There is no evidence of a skin-sensitizing potential.

Experimental/calculated data: Guinea pig maximization test guinea pig: Skin sensitizing effects were not observed in animal studies.

Germ cell mutagenicity Assessment of mutagenicity: The product has not been tested. The statement has been derived from the properties of the individual components. Mutagenicity tests revealed no genotoxic potential.

Carcinogenicity Assessment of carcinogenicity: The product has not been tested. The statement has been derived from the properties of the individual components. The results of various animal studies gave no indication of a carcinogenic effect.

Reproductive toxicity Assessment of reproduction toxicity: The product has not been tested. The statement has been derived from the properties of the individual components. The results of animal studies gave no indication of a fertility impairing effect.

Developmental toxicity Assessment of teratogenicity: The product has not been tested. The statement has been derived from the properties of the individual components. Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure) Assessment of repeated dose toxicity: The product has not been tested. The statement has been derived from the properties of the individual components. No substance-specific organotoxicity was observed after repeated administration to animals. Other relevant toxicity information Misuse can be harmful to health.

SECTION 12: Ecological Information

12.1. Toxicity Assessment of aquatic toxicity: May cause long-term adverse effects in the aquatic environment. Toxicity to fish: LC50 (96 h) > 100 mg/l, *Oncorhynchus mykiss* (OECD 203; ISO 7346; 84/449/EEC, C.1, static) Aquatic invertebrates: EC50 (48 h) > 100 mg/l, *Daphnia magna* Aquatic plants: EC10 (72 h) > 1,000 mg/l, *Pseudokirchneriella subcapitata* EC50 (7 d) > 100 mg/l (growth rate), *Lemna gibba* (OECD guideline 221)

12.2. Persistence and degradability Assessment biodegradation and elimination (H2O):

The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: 1,1-dimethylpiperidinium chloride; mepiquat chloride Assessment biodegradation and elimination (H2O): Readily biodegradable (according to OECD criteria). Information on: 2-chloroethylphosphonic acid; ethephon Assessment biodegradation and elimination (H2O): Not readily biodegradable (by OECD criteria).

12.3. Bioaccumulative potential Assessment bioaccumulation potential: The product has not been tested. The statement has been derived from the properties of the individual components. Information on: 1,1-dimethylpiperidinium chloride; mepiquat chloride Bioaccumulation potential: Because of the n-octanol/water distribution coefficient (log Pow)

accumulation in organisms is not to be expected. Information on: 2-chloroethylphosphonic acid; ethephon Bioaccumulation potential: Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

12.4. Mobility in soil Assessment transport between environmental compartments: The product has not been tested. The statement has been derived from the properties of the individual components. Information on: 1,1-dimethylpiperidinium chloride; mepiquat chloride Assessment transport between environmental compartments: Following exposure to soil, the product trickles away and can – dependant on degradation - be transported to deeper soil areas with larger water loads.

Information on: 2-chloroethylphosphonic acid; ethephon Assessment transport between environmental compartments: Following exposure to soil, adsorption to solid soil particles is probable, therefore contamination of groundwater is not expected.

12.5. Results of PBT and vPvB assessment The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria or the vPvB (very persistent/very bioaccumulative) criteria.

12.6. Other adverse effects The product does not contain substances that are listed in Regulation (EC) 1005/2009 on substances that deplete the ozone layer.

12.7. Additional information Other ecotoxicological advice: Do not discharge product into the environment without control.

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SECTION 13: Disposal Considerations

13.1. Waste treatment methods : Must be sent to a suitable incineration plant, observing local regulations. Must be disposed of or incinerated in accordance with local regulations. The UK Environmental Protection (Duty of Care) Regulations (EP) and amendments should be noted (United Kingdom). This product and any uncleaned containers must be disposed of as hazardous waste in accordance with the 2005 Hazardous Waste Regulations and amendments (United Kingdom)

Contaminated packaging: Contaminated packaging should be emptied as far as possible and disposed of in the same manner as the substance/product.

SECTION 14: Transport Information

Land transport	ADR RID ADN IMDG IATA/ICAO	UN number	UN3265
		UN proper shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (contains ETHEPHON 14%) CORROSIVE ON ALUMINIUM
Transport hazard class(es):		8	
Packing group:		III	
Inland waterway transport		Environmental hazards	no
Sea transport		Special precautions for user	None known
Air transport	Tunnel code: E Transport in Inland waterway vessel: Not evaluated Air transport : No Mark as dangerous for the environment is needed		

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

Regulation: Not evaluated

Shipment approved: Not evaluated

Pollution name: Not evaluated

Pollution category: Not evaluated

Ship Type: Not evaluated

Further information : This product is subject to the most recent edition of "The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations" and their amendments (United Kingdom).

SECTION 15: Regulatory Information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture. To avoid risks to man and the environment, comply with the instructions for use. If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection. The data should be considered when making any assessment under the Control of Substances Hazardous to Health Regulations (COSHH), and related guidance, for example, 'COSHH Essentials' (United Kingdom). This product is classified under the Chemicals (Hazard Information and Packaging) Regulations, (CHIP) (United Kingdom).

15.2. Chemical Safety Assessment Advice on product handling can be found in sections 7 and 8 of this safety data sheet.

SECTION 16: Other Information

For proper and safe use of this product, please refer to the approval conditions laid down on the product label. Full text of the classifications, including the indication of danger, the hazard symbols, the R phrases, and the hazard statements, if mentioned in section 2 or 3:

Xn Harmful. C Corrosive. 22 Harmful if swallowed. 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. 20/21 Harmful by inhalation and in contact with skin. 34 Causes burns. Met. Corr. Substance or mixture corrosive to metals. Acute Tox. Acute toxicity. Aquatic Chronic Hazardous to the aquatic environment – chronic. Skin Corr./Irrit. Skin corrosion/irritation. H302 Harmful if swallowed. H412 Harmful to aquatic life with long lasting effects. H314 Causes severe skin burns and eye damage. H312 Harmful in contact with skin. H332 Harmful if inhaled.

The above information is intended to give general health and safety guidance on the storage and transport of the product. It is not intended to apply to the use of the product for which purposes the product label and any appropriate technical usage literature available should be consulted and any relevant licenses, consents or approvals complied with. The requirements or recommendations of any relevant site or working procedure, system or policy in force or arising from any

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risk assessment involving the substance or product should take precedence over any of the guidance contained in this safety data sheet where there is a difference in the information given. The information provided in this safety data sheet is accurate at the date of publication and will be updated as and when appropriate. No liability will be accepted for any injury, loss or damage resulting from any failure to take account of information or advice contained in this safety data sheet.