

# CLAYTON PLANT PROTECTION

**CLAYTON STUN** Safety Data Sheet according to Regulation (EC) No. 1907/2006 and Regulation (EU) No. 453/2010.  
Version 1/dsc 10/08/2015. This version replaces all previous versions.

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

- 1.1 Product identifier: Product name : Clayton Stun. Product type : Mixture  
1.2 Relevant identified uses of the substance or mixture and uses advised against: Uses - Plant Growth Regulator  
1.3 Details of the supplier of the safety data sheet:  
Clayton Plant Protection (UK) Ltd., Bracetown Business Park, Clonee, Dublin15. Ireland.  
Tel: (00 353) 1 8210127 www.cpp.ag Email: info@cpp.ag

## 2. Hazards identification

- 2.1 Classification of the substance or mixture  
Classification (REGULATION (EC) No 1272/2008)  
Chronic aquatic toxicity, Category 2 H411: Toxic to aquatic life with long lasting effects.  
Classification (67/548/EEC, 1999/45/EC)  
Dangerous for the environment R51/53: 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 :



Hazard statements:

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements:

Prevention: P273 Avoid release to the environment.

Response: P391 Collect spillage.

Disposal: P501 Dispose of contents/ container to an approved waste disposal plant.

Supplemental Hazard Statements :

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

2.3 Other hazards No information available.

## 3. Composition/information on ingredients

3.2 Mixtures : Hazardous components

Chemical Name	CAS-No. EC-No. Registration number	Classification (67/548/EEC)	Classification (REGULATION (EC) No 1272/2008)	Concentration [%]
Isotridecyl alcohol ethoxylate	78330-21-9	Xi; R36/38	Eye Irrit. 2; H319 Skin Irrit. 2; H315	>= 10 - < 20
Alkyl naphthalene sulfonate, sodium salt		Xi; R36	Eye Irrit. 2; H319	>= 1 - < 10
potassium hydroxide	1310-58-3 215-181-3	C; R35 Xn; R22	Acute Tox. 4; H302 Skin Corr. 1A; H314	>= 1 - < 2
Benzenesulfonic acid, monoC10-16-alkyl derivs., sodium salts	68081-81-2 268-356-1	R22 R38 R41	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318	>= 1 - < 5
1,2-dihydropyridazine-3,6- dione, potassium salt	51542-52-0 257-261-0			80.4

For the full text of the R-phrases mentioned in this Section, see Section 16.

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

## 4. First aid measures

4.1 Description of first aid measures

If inhaled : Remove to fresh air. Obtain medical attention.

In case of skin contact : Remove contaminated clothing and shoes. Wash off with warm water and soap. If symptoms persist, call a physician.

In case of eye contact : Rinse thoroughly with plenty of water, also under the eyelids. If symptoms persist, call a physician.

If swallowed : Do NOT induce vomiting. Rinse mouth with water. Obtain medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : No information available. Risks : No information available.

4.3 Indication of any immediate medical attention and special treatment needed Treatment : The first aid procedure should be established in consultation with a doctor responsible for industrial medicine.

## 5. Firefighting measures

5.1 Extinguishing media Suitable extinguishing media : Carbon dioxide (CO<sub>2</sub>), Dry powder, Foam, Water mist

Unsuitable extinguishing media : Water spray

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : No information available.

5.3 Advice for firefighters Special protective equipment for firefighters: In the event of fire, wear self-contained breathing apparatus. Full protective flameproof clothing

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Further information : Use water spray to cool unopened containers. Prevent fire extinguishing water from contaminating surface water or the ground water system.

## 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Wear suitable protective equipment.

6.2 Environmental precautions Environmental precautions : Do not allow material to contaminate ground water system.  
Do not allow uncontrolled discharge of product into the environment.

6.3 Methods and materials for containment and cleaning up Methods for cleaning up : Sweep up and shovel into suitable containers for disposal.

6.4 Reference to other sections Refer to protective measures listed in sections 7 and 8.

## 7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Handle and open container with care. Use only with adequate ventilation. Avoid dust formation.

Do not get in eyes or mouth or on skin. Wear suitable protective clothing, gloves and eye/face protection. Wash thoroughly after handling. Keep container closed when not in use.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep containers tightly closed in a dry, cool and well-ventilated place.

Keep only in the original container. Other data : Stable under normal conditions.

7.3 Specific end use(s) : Plant growth regulator

## 8. Exposure controls/personal protection

8.1 Control parameters

Components	CAS-No	Value	Control parameters	Update	Basis
potassium hydroxide (Solution)	1310-58-3	STEL	2 mg/m <sup>3</sup>	2005-04-06	GB EH40

8.2 Exposure controls

Engineering measures: Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment :

Respiratory protection : In the case of dust or aerosol formation use respirator with an approved filter. Dust safety masks are recommended when the dust concentration is more than 10 mg/m<sup>3</sup>.

Hand protection : Chemical resistant protective gloves

Eye protection : Safety glasses with side-shields conforming to EN166

Skin and body protection : Long sleeved clothing. Remove and wash contaminated clothing before re-use.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing. Wear suitable gloves and eye /face protection. When using do not eat, drink or smoke. Wash thoroughly after handling. Keep working clothes separately. Remove and wash contaminated clothing before re-use.

Environmental exposure controls. General advice : Do not allow material to contaminate ground water system. Do not allow uncontrolled discharge of product into the environment.

## 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : granular	Melting point/range : ca. 304 °C Note: no data available
Colour : light brown	Vapour pressure : not applicable
Odour : very faint, to, odourless	Density : 0.5 - 0.8 g/cm <sup>3</sup>
Odour Threshold: no data available	Relative density : 0.5 - 0.8 at
Flash point : >= 100 °C	Water solubility : soluble
Ignition temperature : no data available	Partition coefficient: POW : n- octanol/water: log Pow: no data available
Lower explosion limit : no data available	Solubility in other solvents : no data available
Upper explosion limit : no data available	Viscosity, dynamic : Note: no data available
Flammability (solid, gas) : The product is not flammable.	Viscosity, kinematic : Note: not applicable
Auto-ignition temperature : not auto-flammable	Relative vapour density : not applicable
pH : 8 - 12 Concentration : 2 % (as aqueous solution)	Evaporation rate : no data available

9.2 Other information. Oxidising potential : Note: The substance or mixture is not classified as oxidizing.

## 10. Stability and reactivity

10.1 Reactivity No dangerous reaction known under conditions of normal use.

10.2 Chemical stability Stable under normal conditions.

10.3 Possibility of hazardous reactions Hazardous reactions : No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid Conditions to avoid : Extremes of temperature and direct sunlight.

10.5 Incompatible materials Materials to avoid : Strong acids and strong bases. Oxidizing agents

10.6 Hazardous decomposition products Hazardous decomposition products : Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke). Thermal decomposition : Note: no data available

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## 11. Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Acute oral toxicity : LD50: 7,500 mg/kg Species: rat  
Acute oral toxicity potassium hydroxide : LD50 Oral: 273 mg/kg Species: rat  
1,2-dihydropyridazine-3,6- dione, potassium salt : LD50: > 5,000 mg/kg Species: rat

Remarks: Maleic Hydrazide

Acute inhalation toxicity : LC50: > 5 mg/l Exposure time: 4 h Species: rat

Acute inhalation toxicity 1,2-dihydropyridazine-3,6- dione, potassium salt : LC50: > 4.03 mg/l Exposure time: 4 h Species: rat

Remarks: An LC50/inhalation/4h/rat could not be determined because no mortality of rats was observed at the maximum achievable concentration.

Acute dermal toxicity : LD50: > 2,000 mg/kg Species: rabbit

Acute dermal toxicity 1,2-dihydropyridazine-3,6- dione, potassium salt : LD50: > 5,000 mg/kg Species: rabbit

Remarks: Maleic Hydrazide

#### Skin corrosion/irritation

Skin irritation : Species: rabbit Result: Mild skin irritation Remarks: Based on available data, the classification criteria are not met.

Skin irritation 1,2-dihydropyridazine-3,6- dione, potassium salt : Species: rabbit Result: Mild skin irritation

Remarks: Maleic Hydrazide

#### Serious eye damage/eye irritation

Eye irritation : Species: rabbit Result: No eye irritation Remarks: Based on available data, the classification criteria are not met.

Eye irritation 1,2-dihydropyridazine-3,6- dione, potassium salt : Species: rabbit Result: No eye irritation

Remarks: Maleic Hydrazide

#### Respiratory or skin sensitisation

Sensitisation: Species: guinea pig. Result: Did not cause sensitization on laboratory animals.

Sensitisation 1,2-dihydropyridazine-3,6- dione, potassium salt : Buehler Test. Species: guinea pig

Classification: Does not cause skin sensitisation. Result: Did not cause sensitization on laboratory animals.

Germ cell mutagenicity 1,2-dihydropyridazine-3,6- dione, potassium salt :

Escherichia coli Result: negative

Salmonella typhimurium Result: negative

Bacillus subtilis Result: positive Remarks: Maleic Hydrazide

Bacillus subtilis Result: positive

Chinese hamster ovary cells Result: positive

Chinese hamster ovary cells Result: negative

Mouse Lymphoma Result: negative

Mouse Lymphoma Result: negative

Human lymphocytes Result: negative

Genotoxicity in vivo 1,2-dihydropyridazine-3,6- dione, potassium salt :

Species: mouse Dose: 0, 0.5, 1.0 and 5.0 g/kg bw Result: negative

Species: mouse Dose: 0,0.02,0.2,1.3 and 7.5g/kg bw Result: negative

Species: mouse Dose: 0, 2,500 and 5,000 mg/kg bw Result: negative

Species: mouse Dose: 0, 2,500 and 5,000 mg/kg bw Result: negative

Species: mouse Dose: 0,110,551,800 and 1101mg/kg bw Result: negative

Species: Drosophila melanogaster Dose: 0, 0.4 and 1.0 % Result: negative

Mutagenicity Assessment Remarks : Based on available data, the classification criteria are not met.

Carcinogenicity Assessment Remarks : Based on available data, the classification criteria are not met.

Reproductive toxicity Assessment Remarks : Based on available data, the classification criteria are not met.

Target Organ Systemic Toxicant - Single exposure Remarks : Based on available data, the classification criteria are not met.

Target Organ Systemic Toxicant - Repeated exposure 1,2-dihydropyridazine-3,6- dione, potassium salt :

Species: rat, male and female. Application Route: Oral Dose: 30,100,300 and 1,000mg/kg bw/d Exposure time: 13 weeks ( )

NOEL: 1000 mg/kg bw/day Maleic Hydrazide Species: dog, male and female Dose: 750, 2,500, 7,500 & 25,000 ppm

Exposure time: 13 weeks ( ) NOEL: 25,000 ppm (625 mg/kg bw/day) Method: OECD Test Guideline 409 Maleic Hydrazide

Species: dog, male and female. Dose: 750, 2,500 and 25,000 ppm. Exposure time: (1 y). NOEL: 750 ppm (25 and 29 mg/kg

bw/day (M/F)) Maleic Hydrazide

Species: rat, male and female Dose: 50, 100, 500 and 1,000 mg/m<sup>3</sup> Exposure time: 28-day( ) NOEL: 500 mg/m<sup>3</sup> for males /

>1,000 mg/m<sup>3</sup> for females. Method: OECD Test Guideline 412 Maleic Hydrazide

Species: rat, male and female. Dose: 100,500&1,000 mg/kg bw/day Exposure time: (21 d). NOEL: 1000 mg/kg bw/day

Maleic Hydrazide

Remarks: Based on available data, the classification criteria are not met.

Toxicology Assessment. Further information : no data available

## 12. Ecological information

### 12.1 Toxicity

Toxicity to fish : LC50: 130.8 mg/l Exposure time: 96 h Species: Oncorhynchus mykiss (rainbow trout) :

NOEC: 111.3 mg/l Exposure time: 96 h Species: Oncorhynchus mykiss (rainbow trout)

Toxicity to fish 1,2-dihydropyridazine-3,6- dione, potassium salt :

LC50: > 134.8 mg/l Exposure time: 96 h Species: Oncorhynchus mykiss (rainbow trout) static test Method: OECD Test Guideline 203

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NOEC: > 134.8 mg/l Exposure time: 96 h Species: Oncorhynchus mykiss (rainbow trout) Static test Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates:

NOEC: 207.2 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea)

EC50: 244 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea)

Toxicity to daphnia and other aquatic invertebrates 1,2-dihydropyridazine-3,6- dione, potassium salt :

EC50: 684.6 mg/l Exposure time: 48 h. Species: Daphnia magna (Water flea). static test Method: OECD Test Guideline 202

NOEC: 500.4 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) static test Method: OECD Test Guideline 202

Toxicity to algae

EC50: 445.2 mg/l Exposure time: 72 h Species: Pseudokirchneriella subcapitata

NOEC: 179.6 mg/l Exposure time: 72 h Species: Pseudokirchneriella subcapitata

EC50: 12.3 mg/l Exposure time: 7 d Species: Myriophyllum aquaticum (aquatic macrophyte plant)

NOEC: 3.2 mg/l Exposure time: 7 d Species: Myriophyllum aquaticum (aquatic macrophyte plant)

EC50: 54.4 mg/l Exposure time: 4 d Species: Myriophyllum aquaticum (aquatic macrophyte plant)

NOEC: 10.0 mg/l Exposure time: 4 d Species: Myriophyllum aquaticum (aquatic macrophyte plant)

Toxicity to algae 1,2-dihydropyridazine-3,6- dione, potassium salt :

EC50: > 134.8 mg/l Exposure time: 72 h Species: Pseudokirchneriella subcapitata (green algae) Method: OECD Test Guideline 201

NOEC: > 134.8 mg/l Exposure time: 72 h Species: Pseudokirchneriella subcapitata (green algae) Method: OECD Test Guideline 201

EC50: > 134.8 mg/l Exposure time: 72 h Species: Anabaena flos-aquae (cyanobacterium) Method: OECD Test Guideline 201

NOEC: > 134.8 mg/l Exposure time: 72 h Species: Anabaena flos-aquae (cyanobacterium) Method: OECD Test Guideline 201

EC50: 64.3 mg/l Exposure time: 7 d Species: Myriophyllum aquaticum (aquatic macrophyte plant)

NOEC: 4.3 mg/l Exposure time: 7 d Species: Myriophyllum aquaticum (aquatic macrophyte plant)

EC50: > 134.8 mg/l Exposure time: 4 d Species: Myriophyllum aquaticum (aquatic macrophyte plant)

NOEC: 13.5 mg/l Exposure time: 4 d Species: Myriophyllum aquaticum (aquatic macrophyte plant)

Toxicity to fish (Chronic toxicity) :

NOEC: 30 mg/l Exposure time: 21 d Species: Oncorhynchus mykiss (rainbow trout)

LC50: > 88 mg/l Exposure time: 21 d Species: Oncorhynchus mykiss (rainbow trout)

Toxicity to fish (Chronic toxicity) 1,2-dihydropyridazine-3,6- dione, potassium salt :

NOEC: 9.6 mg/l Exposure time: 32 d Species: Pimephales promelas (fathead minnow) Remarks: Maleic Hydrazide

LOEC: > 9.6 mg/l Exposure time: 32 d Species: Pimephales promelas (fathead minnow) Remarks: Maleic Hydrazide

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) :

EC50: 110 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea)

NOEC: 0.95 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea)

12.2 Persistence and degradability Biodegradability : Remarks: no data available

12.3 Bioaccumulative potential Bioaccumulation : Remarks: no data available

12.4 Mobility in soil Mobility : Remarks: no data available

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects. Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Toxic to aquatic life with long lasting effects.

## 13. Disposal considerations

13.1 Waste treatment methods . Product : The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Offer surplus and non-recyclable solutions to a licensed disposal company. Contaminated packaging : Empty remaining contents. Dispose of as unused product. Do not re-use empty containers.

## 14. Transport information

**ADR** UN number : 3077 UN proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

(Isotridecyl alcohol ethoxylate, 1,2-dihydropyridazine-3,6-dione, potassium salt) Transport hazard class(es) : 9

Packing group : III Classification Code : M7 Hazard Identification Number : 90 Labels : 9 Tunnel restriction code : (E), full load, tank-container Environmentally hazardous : yes

**IATA** UN number:3077 Description of the goods: Environmentally hazardous substance, solid, n.o.s. (Isotridecyl alcohol ethoxylate, 1,2-dihydropyridazine-3,6-dione, potassium salt) Class: 9 Packing group: III Labels: 9 Environmentally hazardous : yes

**MDG** UN number : 3077 Description of the goods : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

(Isotridecyl alcohol ethoxylate, 1,2-dihydropyridazine-3,6-dione, potassium salt) Class : 9 Packing group : III Labels : 9

EmS Number 1 : F-A EmS Number 2 : S-F Marine pollutant : yes. Isotridecyl alcohol ethoxylate 1,2-dihydropyridazine-3,6-dione, potassium salt

**RID**

UN number : 3077 Description of the goods : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

(Isotridecyl alcohol ethoxylate, 1,2-dihydropyridazine-3,6-dione, potassium salt) Transport hazard class(es) : 9

Packing group : III Classification Code : M7 Hazard Identification Number : 90 Labels : 9 Environmentally hazardous : yes

## 15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture REACH - Candidate List of

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Substances of Very High Concern for Authorisation (Article 59) : This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57). Major Accident Hazard Legislation : 96/82/EC  
Update: 2003 Directive 96/82/EC does not apply Water contaminating class (Germany) : WGK 1 slightly water endangering  
15.2 Chemical Safety Assessment

### **16. Other information**

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

R22 Harmful if swallowed.

R35 Causes severe burns.

R36 Irritating to eyes. R36/38 Irritating to eyes and skin.

R38 Irritating to skin.

R41 Risk of serious damage to eyes.

R51/53 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.

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H319 Causes serious eye irritation.

H411 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.