

CLAYTON PLANT PROTECTION

CLAYTON HEED 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 HEED

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

Use : Herbicide

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 Flammable

liquids, Category 3 H226: Flammable liquid and vapour.

Skin irritation, Category 2 H315: Causes skin irritation.

Eye irritation, Category 2 H319: Causes serious eye irritation.

Skin sensitisation, Category 1 H317: May cause an allergic skin reaction.

Aspiration hazard, Category 1 H304: May be fatal if swallowed and enters airways.

Acute aquatic toxicity, Category 1 H400: Very toxic to aquatic life.

Chronic aquatic toxicity, Category 1 H410: Very toxic to aquatic life with long lasting effects

Classification (67/548/EEC, 1999/45/EC)

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

2.2 Label elements

Labelling: Regulation (EC) No. 1272/2008

Hazard Pictograms:



Signal word :

Danger

Hazard statements :

H226 Flammable liquid and vapour
H304 May be fatal if swallowed and enters airways.
H317 May cause allergic skin reaction
H319 Causes serious eye irritation
H410 Very toxic to aquatic life with long lasting effects

Supplemental Hazard

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

Precautionary statements :

Prevention

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

P280 Wear protective gloves/ eye protection/ face protection.

Response

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.

P331 Do NOT induce vomiting

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

comply with the instructions for use.

Hazardous components which must be listed on the label:

S-benzyl N,N-dipropylthiocarbamate solvent naphtha (petroleum), light arom.

2.3 Other hazards

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.

Combustible liquid.

May be fatal if swallowed and enters airways.

Causes skin and eye irritation.

May cause an allergic skin reaction.

Very toxic to aquatic life with long lasting effects.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Hazardous components

Component	CAS No. EC No. Reg. No.	Classification (EC/1272/2008)	Concentration
S-benzyl N,Ndipropylthiocarbamate	52888-80-9 401-730-6 401-730-6	Acute Tox. 4; H302 Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 2; H411	>= 70 - < 90
solvent naphtha (petroleum), light arom.	64742-95-6 265-199-0 01- 211945585135	Flam. Liq. 3; H226 STOT SE 3; H336 STOT SE 3; H335 Asp. Tox. 1; H304 Aquatic Chronic 2; H411	>= 10 - < 20
calcium dodecylbenzenesulphonate	26264-06-2 247-557-8	Skin Irrit. 2; H315 Eye Dam. 1; H318 Aquatic Chronic 3; H412	>= 3 - < 5
2-methylpropan-1-ol	78-83-1 201-148-0 01- 211948460923	Flam. Liq. 3; H226 Skin Irrit. 2; H315 Eye Dam. 1; H318 STOT SE 3; H336 STOT SE 3; H335	>= 1 - < 3

For explanation of abbreviations 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: contains petroleum distillates and/or aromatic solvents.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : Aspiration may cause pulmonary oedema and pneumonitis.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : There is no specific antidote available. Treat symptomatically. Do not induce vomiting: contains petroleum distillates and/or aromatic solvents.

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

Alcohol-resistant foam

5.2 Special hazards arising from the substance or mixture Specific hazards during firefighting:

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. Flash back possible over considerable distance.

5.3 Advice for fire-fighters:

Special protective equipment for firefighters: Wear full protective clothing and self-contained breathing apparatus.

Further information : 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. Keep people away from and upwind of spill/leak. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. Remove all sources of ignition. Pay attention to flashback.

6.2 Environmental precautions:

Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities

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).

6.4 Reference to other sections

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

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid contact with skin and eyes. When using do not eat, drink or smoke. Use only in an area containing flame proof equipment. Take precautionary measures against static discharges. For personal protection see section 8.

7.2 Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well ventilated place. Keep out of the reach of children. Keep away from combustible material. Keep in an area equipped with sprinklers. Keep away from food, drink and animal feedingstuffs. No smoking.

7.3 Specific end use(s)

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
S-benzyl N,Ndipropylthiocarbamate	4 mg/m ³	TWA	Syngenta
solvent naphtha (petroleum), light arom.	19 ppm 100 mg/m ³	TWA	supplier
2-methylpropan-1ol	50 ppm 150 mg/m ³	TWA	CH SUVA
Further information	National Institute for Occupational Safety and Health, Institut National de Recherche et de Sécurité pour la prévention des accidents du travail et des maladies professionnelles, Harm to the unborn child is not to be expected when the OEL-value is respected		
	50 ppm 150 mg/m ³	STEL	CH SUVA
Further information	National Institute for Occupational Safety and Health, Institut National de Recherche et de Sécurité pour la prévention des accidents du travail et des maladies professionnelles, Harm to the unborn child is not to be expected when the OEL-value is respected		

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. Maintain air concentrations below occupational exposure standards. Where necessary, seek additional occupational hygiene advice.

Personal protective equipment

Eye protection :

No special protective equipment required.

Hand protection Material :

Nitrile rubber

Break through time : > 480 min

Glove thickness : 0.5 mm

Remarks : The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier

of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Skin and body protection :

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Remove and wash contaminated clothing before re-use. Wear as appropriate: Impervious clothing

Respiratory protection :

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Suitable respiratory equipment: Respirator with a half face mask The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

Use only respiratory protection equipment with CE-symbol including four digit test number. Filter type : Particulates type (P)

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.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical State : Liquid

Form : Liquid

Colour : Pale yellow to brownish yellow

Odour : Aromatic

pH : 9.7 at 1% w/v

Flash point : 59 °C

Density : 1.017 g/ml

Solubility in other solvents : Miscible

Explosive properties : Not explosive

Oxidizing properties : Not classified as oxidising

Viscosity, kinematic: 8-9mm²/s

Viscosity, dynamic: 17.8 mPa.s (20°C)
8.5 mPa.s (40°C)

9.2 Other information

Surface Tension: 32.2 mN/m, 20.5°C

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity : See section 10.3

10.2 Chemical Stability : Stable under normal conditions

10.3 Possibility of hazardous reactions: None known under normal conditions of use.

10.4 Conditions to avoid : No decomposition if used as directed.

10.5 Incompatible materials : None known

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, male and female), >2000 mg/kg
The substance or mixture has no acute oral toxicity.

Acute inhalational toxicity : LC50 rat, > 4.7 mg/l, 4h

Acute dermal toxicity : LD50 rabbit, >4,000 mg/kg

Components:

S-benzyl N,N-dipropylthiocarbamate:

Acute oral toxicity : LD50 (Rat, female): 1,958 mg/kg

LD50 (Rat, male): 1,820 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 4.7 mg/l Exposure time: 4 h

Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg

Assessment: The substance or mixture has no acute dermal toxicity

solvent naphtha (petroleum), light arom.:

Acute oral toxicity : LD50 (Rat): 3,952 mg/kg

Acute inhalation toxicity : Remarks: Irritating to respiratory system.

Acute dermal toxicity : LD50 (Rabbit): > 3,160 mg/kg

2-methylpropan-1-ol:

Acute oral toxicity : LD50 (Rat): 2,830 - 3,350 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 18.18 mg/l

Exposure time: 6 h Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rat): > 2,000 - 2,460 mg/kg

Skin corrosion/irritation

Product:

Species: Rabbit

Result: Irritating to skin.

Remarks: The toxicological data has been taken from products of similar composition.

Components:

S-benzyl N,N-dipropylthiocarbamate:

Species: Rabbit

Result: No skin irritation

solvent naphtha (petroleum), light arom.:

Result: No skin irritation

2-methylpropan-1-ol:

Result: Irritating to skin.

Serious eye damage/eye irritation

Product:

Species: Rabbit

Result: Eye irritation

Remarks: The toxicological data has been taken from products of similar composition.

Components:

S-benzyl N,N-dipropylthiocarbamate:

Species: Rabbit

Result: No eye irritation

solvent naphtha (petroleum), light arom.:

Result: No eye irritation

2-methylpropan-1-ol:

Result: Risk of serious damage to eyes.

Respiratory or skin sensitisation

Product:

Test Type: Buehler Test

Species: Guinea pig

Result: A skin sensitizer in animal tests.

Remarks: The toxicological data has been taken from products of similar composition.

Components:

S-benzyl N,N-dipropylthiocarbamate: Species:
Guinea pig

Result: May cause sensitisation by skin contact.

solvent naphtha (petroleum), light arom.:

Result: Not a skin sensitizer.

2-methylpropan-1-ol:

Result: Did not cause sensitisation on laboratory animals.

Germ cell mutagenicity

Components:

S-benzyl N,N-dipropylthiocarbamate:

Germ cell mutagenicity- Assessment : Animal testing did not show any mutagenic effects.

2-methylpropan-1-ol:

Germ cell mutagenicity- Assessment: Animal testing did not show any mutagenic effects.

Carcinogenicity

Components:

S-benzyl N,N-dipropylthiocarbamate: Carcinogenicity- Assessment : No evidence of carcinogenicity in animal studies.

solvent naphtha (petroleum), light arom.: Carcinogenicity- Assessment : Classified based on benzene content < 0.1% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note P)

2-methylpropan-1-ol: Carcinogenicity- Assessment : No evidence of carcinogenicity in animal studies.

Reproductive toxicity

Components:

S-benzyl N,N-dipropylthiocarbamate: Reproductive toxicity- Assessment : No toxicity to reproduction

2-methylpropan-1-ol: Reproductive toxicity- Assessment : Animal testing did not show any effects on fertility. Animal testing did not show any effects on foetal development.

STOT - single exposure Components:

solvent naphtha (petroleum), light arom.:

Assessment: May cause respiratory irritation., May cause drowsiness or dizziness.

2-methylpropan-1-ol:

Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation., The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

Repeated dose toxicity

Components:

S-benzyl N,N-dipropylthiocarbamate: Remarks: No adverse effect has been observed in chronic toxicity tests.

Aspiration toxicity

Product:

Aspiration hazard if swallowed - can enter lungs and cause damage.

Components:

solvent naphtha (petroleum), light arom.:

May be fatal if enters airways

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Product:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 3 mg/l

Exposure time: 96 h

Remarks: Based on test results obtained with similar product.

Toxicity to daphnia and other aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 2.2 mg/l

Exposure time: 48 h

Remarks: Based on test results obtained with similar product.

Toxicity to algae

ErC50 (Pseudokirchneriella subcapitata (green algae)): 0.18 mg/l

Exposure time: 96 h

Remarks: Based on test results obtained with similar product.

NOEC (Pseudokirchneriella subcapitata (green algae)): 0.010 mg/l End point: Growth rate

Exposure time: 96 h

Remarks: Based on test results obtained with similar product.

Components:

S-benzyl N,N-dipropylthiocarbamate:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.84 mg/l

Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 0.51 mg/l

Exposure time: 48 h

Toxicity to algae : ErC50 (Pseudokirchneriella subcapitata (green algae)): 0.120 mg/l Exposure time: 72 h

NOEC (Pseudokirchneriella subcapitata (green algae)): 0.009 mg/l End point: Growth rate Exposure time: 72 h

ErC50 (Navicula pelliculosa (Freshwater diatom)): 0.68 mg/l

Exposure time: 72 h

NOEC (Navicula pelliculosa (Freshwater diatom)): 0.2 mg/l End point: Growth rate Exposure time: 72 h

Toxicity to fish (Chronic toxicity- : NOEC: 0.31 mg/l

Exposure time: 21 d

Species: Oncorhynchus mykiss (rainbow trout)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

NOEC: 0.045 mg/l

Exposure time: 21 d

Species: Daphnia magna (Water flea)

solvent naphtha (petroleum), light arom.: Toxicity

to fish (Chronic toxicity) : NOELR: 1.23 mg/l

Exposure time: 28 d

Species: Oncorhynchus mykiss (rainbow trout)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

NOELR: 2.14 mg/l

Exposure time: 28 d

Species: Daphnia magna (Water flea)

Ecotoxicology Assessment Chronic aquatic toxicity :

Toxic to aquatic life with long lasting effects.

2-methylpropan-1-ol:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 1,430 mg/l

Exposure time: 96 h

Test Type: flow-through test

Toxicity to daphnia and other aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 1,100 mg/l

Exposure time: 48 h

Test Type: static test

NOEC : 20 mg/l Exposure time: 21 d Test Type: semi-static test

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): 1,799 mg/l End point: Growth rate Exposure time: 72 h

12.2 Persistence and degradability Components:

S-benzyl N,N-dipropylthiocarbamate:

Biodegradability : Result: Not readily biodegradable. Stability
in water : Degradation half life: 159 - 279 d Remarks:
Persistent in water.

12.3 Bioaccumulative potential Components:

S-benzyl N,N-dipropylthiocarbamate:

Bioaccumulation
Remarks: Prosulfocarb bioaccumulates.

12.4 Mobility in soil Components:

S-benzyl N,N-dipropylthiocarbamate:

Distribution among environmental compartments :
Remarks: Slightly mobile in soils
Stability in soil : Percentage dissipation: 50 % (DT50: 35 d) Remarks:
Product is not persistent.

12.5 Results of PBT and vPvB assessment Product:

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..

Components:

S-benzyl N,N-dipropylthiocarbamate:

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB).

solvent naphtha (petroleum), light arom.:

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB)..

2-methylpropan-1-ol:

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB)..

12.6 Other adverse effects Product:

Additional ecological information
Remarks: No data available

Components:

S-benzyl N,N-dipropylthiocarbamate:

Additional ecological information :

Remarks: No data available solvent naphtha (petroleum), light arom.:

Additional ecological information :

Remarks: No data available

calcium dodecylbenzenesulphonate:

Additional ecological information :

Remarks: No data available

2-methylpropan-1-ol:

Additional ecological information

Remarks: No data available

SECTION 13: DISPOSAL CONSIDERATIONS

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 to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

SECTION 14: TRANSPORT INFORMATION

14.1 UN Number :

ADN: UN 1993

ADR: UN 1993

RID: UN 1993

IMDG: UN 1993

IATA: UN 1993

14.2 UN proper shipping name

ADN : FLAMMABLE LIQUID, N.O.S. (SOLVENT NAPHTHA AND ISOBUTANOL)

ADR : FLAMMABLE LIQUID, N.O.S. (SOLVENT NAPHTHA AND ISOBUTANOL)

RID : FLAMMABLE LIQUID, N.O.S. (SOLVENT NAPHTHA AND ISOBUTANOL)

IMDG : FLAMMABLE LIQUID, N.O.S. (SOLVENT NAPHTHA AND ISOBUTANOL)

IATA : Flammable liquid, n.o.s. (SOLVENT NAPHTHA AND ISOBUTANOL)

14.3 Transport hazard class(es)

ADN: 3

ADR: 3

RID: 3

IMDG: 3

IATA: 3

14.4 Packing Group

Packing group: III
Classification code: F1
Hazard ID No. 30
Labels: 3

ADR Packing group: III
Classification Code : F1
Hazard Identification Number : 33
Labels : 3
Tunnel restriction code : (D/E)

RID

Packing group : III
Classification Code : F1
Hazard Identification Number : 30
Labels : 3

IMDG

Packing group : III
Labels : 3 EmS Code : F-E, S-E

IATA

Packing instruction (cargo aircraft) : 366
Packing instruction (passenger aircraft) : 355
Packing instruction (LQ): Y344
Packing group: III
Labels: Flammable Liquid

14.5 Environmental hazards :

ADN Environmentally hazardous : yes
ADR Environmentally hazardous : yes
RID Environmentally hazardous : yes
IMDG Marine pollutant : yes

14.6 Special precautions for user

Not applicable

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied

SECTION 15: REGULATORY INFORMATION

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

Other regulations : Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

15.2 Chemical safety assessment

A Chemical Safety Assessment is not required for this substance when it is used in the specified applications.

SECTION 16: OTHER INFORMATION

Further information : Approval number: MAPP 17701

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

Full text of H-Statements

- H226 Flammable liquid and vapour.
- 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.
- H335 May cause respiratory irritation.
- H336 May cause drowsiness or dizziness.
- H400 Very toxic to aquatic life.
- H411 Toxic to aquatic life with long lasting effects.
- H412 Harmful 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.