

SAFETY DATA SHEET according to Regulation (EC) No. 1907/2006

HTH Briquettes (All grades)

Version 4.0

Print Date 2018/07/12

Revision date / valid from 2018/07/12

MSDS code: MZZZ652

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Trade name : HTH Briquettes (All grades)

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

Use of the Substance/Mixture : At this time we do not yet have information on identified uses. They will be included in this safety data sheet when available.

Uses advised against : At this moment we have not identified any uses advised against

1.3. Details of the supplier of the safety data sheet

Company : Brenntag UK Limited
 Alpha House, Lawnswood Business Park
 GB LS16 6QY Leeds

Telephone : +44 (0) 113 3879 200
 Telefax : +44 (0) 113 3879 280
 E-mail address : msds@brenntag.co.uk

1.4. Emergency telephone numberEmergency telephone number : Emergency only telephone number (open 24 hours):
+44 (0) 1865 407333 (N.C.E.C. Culham)**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture**

Classification according to Regulation (EC) No 1272/2008

| REGULATION (EC) No 1272/2008 | | | |
|--|-----------------|---------------|-------------------|
| Hazard class | Hazard category | Target Organs | Hazard statements |
| Oxidizing solids | Category 2 | --- | H272 |
| Acute toxicity (Oral) | Category 4 | --- | H302 |
| Skin corrosion | Category 1B | --- | H314 |
| Specific target organ toxicity - single exposure | Category 3 | --- | H335 |

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| | | | |
|-----------------------------------|------------|-----|------|
| Short-term (acute) aquatic hazard | Category 1 | --- | H400 |
|-----------------------------------|------------|-----|------|

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


| Directive 67/548/EEC or 1999/45/EC | |
|------------------------------------|--------------|
| Hazard symbol / Category of danger | Risk phrases |
| Oxidizing (O) | R 8 |
| Corrosive (C) | R34 |
| Harmful (Xn) | R22 |
| Dangerous for the environment (N) | R50 |
| | R31 |

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

Most important adverse effects

| | | |
|---------------------------------|---|---|
| Human Health | : | See section 11 for toxicological information. |
| Physical and chemical hazards | : | See section 9/10 for physicochemical information. |
| Potential environmental effects | : | See section 12 for environmental information. |

2.2. Label elements**Labelling according to Regulation (EC) No 1272/2008**

| | | | | | | | | | | | | |
|--------------------------|--|---|------|-------------------------------|------|-----------------------|------|--|------|-----------------------------------|------|-----------------------------|
| Hazard symbols | : |  | | | | | | | | | | |
| Signal word | : | Danger | | | | | | | | | | |
| Hazard statements | : | <table> <tr> <td>H272</td> <td>May intensify fire; oxidizer.</td> </tr> <tr> <td>H302</td> <td>Harmful if swallowed.</td> </tr> <tr> <td>H314</td> <td>Causes severe skin burns and eye damage.</td> </tr> <tr> <td>H335</td> <td>May cause respiratory irritation.</td> </tr> <tr> <td>H400</td> <td>Very toxic to aquatic life.</td> </tr> </table> | H272 | May intensify fire; oxidizer. | H302 | Harmful if swallowed. | H314 | Causes severe skin burns and eye damage. | H335 | May cause respiratory irritation. | H400 | Very toxic to aquatic life. |
| H272 | May intensify fire; oxidizer. | | | | | | | | | | | |
| H302 | Harmful if swallowed. | | | | | | | | | | | |
| H314 | Causes severe skin burns and eye damage. | | | | | | | | | | | |
| H335 | May cause respiratory irritation. | | | | | | | | | | | |
| H400 | Very toxic to aquatic life. | | | | | | | | | | | |
| Precautionary statements | : | | | | | | | | | | | |

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| | | | | |
|------------|---------|---------------------------|---|--|
| General | : | P101 | If medical advice is needed, have product container or label at hand. | |
| | | P102 | Keep out of reach of children. | |
| | | P103 | Read label before use. | |
| Prevention | : | P220 | Keep/Store away from clothing/ combustible materials. | |
| | | P220 | Keep away from clothing and other combustible materials. | |
| | | P260 | Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. | |
| | | P261 | Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. | |
| | | P264 | Wash hands thoroughly after handling. | |
| | | P270 | Do not eat, drink or smoke when using this product. | |
| | | P271 | Use only outdoors or in a well-ventilated area. | |
| | | P273 | Avoid release to the environment. | |
| | | P280 | Wear protective gloves/ protective clothing/ eye protection/ face protection. | |
| | | P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. | |
| Response | : | P301 + P330 + P331 | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. | |
| | | P303 + P361 + P353 + P310 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. Immediately call a POISON CENTER/doctor. | |
| | | P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. | |
| | | P330 | Rinse mouth. | |
| | | P363 | Wash contaminated clothing before reuse. | |
| | | P391 | Collect spillage. | |
| | | P310 | Immediately call a POISON CENTER/doctor. | |
| | | P370 + P378 | In case of fire: Use water spray to extinguish. | |
| | | P312 | Call a POISON CENTER/doctor if you feel unwell. | |
| | | P301 + P312 | IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. | |
| | | P304 + P340 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. | |
| | Storage | : | P403 + P233 | Store in a well-ventilated place. Keep container tightly closed. |
| | | | P405 | Store locked up. |
| Disposal | : | P501 | Dispose of contents/ container in accordance with the local regulations. | |

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Additional Labelling:

EUH031 Contact with acids liberates toxic gas.

Hazardous components which must be listed on the label:

- calcium hypochlorite

2.3. Other hazards

For Results of PBT and vPvB assessment see section 12.5.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

| Hazardous components | Amount [%] | Classification (REGULATION (EC) No 1272/2008) | | Classification (67/548/EEC) |
|---|--------------|--|--------------------------------------|--|
| | | Hazard class / Hazard category | Hazard statements | |
| calcium hypochlorite Index-No. : 017-012-00-7 CAS-No. : 7778-54-3 EC-No. : 231-908-7 | > 50 - < 100 | Ox. Sol.2 Acute Tox.4 Skin Corr.1B STOT SE3 Aquatic Acute1 | H272 H302 H314 H335 H400 | Oxidizing; O; R 8 Harmful; Xn; R22 R31 Corrosive; C; R34 Dangerous for the environment; N; R50 |
| Calcium dihydroxide CAS-No. : 1305-62-0 EC-No. : 215-137-3 | < 3 | Eye Dam.1 | H318 | Irritant; Xi; R41 |
| calcium chloride Index-No. : 017-013-00-2 CAS-No. : 10043-52-4 EC-No. : 233-140-8 | < 2 | Eye Irrit.2 | H319 | Irritant; Xi; R36 |
| Calcium chlorate CAS-No. : 10137-74-3 EC-No. : 233-378-2 | < 2 | Ox. Sol.2 | H272 | Oxidizing; O; R 8 |

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.

HTH Briquettes (All grades)**SECTION 4: First aid measures****4.1. Description of first aid measures**

| | |
|-------------------------|--|
| General advice | : Take off all contaminated clothing immediately. |
| If inhaled | : In case of accident by inhalation: remove casualty to fresh air and keep at rest. If breathing is irregular or stopped, administer artificial respiration. Call a physician immediately. |
| In case of skin contact | : Wash off immediately with soap and plenty of water. Call a physician immediately. |
| In case of eye contact | : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Consult an eye specialist immediately. Go to an ophthalmic hospital if possible. |
| If swallowed | : Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician immediately. |

4.2. Most important symptoms and effects, both acute and delayed

| | |
|----------|--|
| Symptoms | : See Section 11 for more detailed information on health effects and symptoms. |
| Effects | : See Section 11 for more detailed information on health effects and symptoms. |

4.3. Indication of any immediate medical attention and special treatment needed

| | |
|-----------|---|
| Treatment | : Treat symptomatically. No further information available. |
|-----------|---|

SECTION 5: Firefighting measures**5.1. Extinguishing media**

| | |
|--------------------------------|---|
| Suitable extinguishing media | : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| Unsuitable extinguishing media | : High volume water jet, Dry powder |

5.2. Special hazards arising from the substance or mixture

| | |
|--------------------------------------|--|
| Specific hazards during firefighting | : The substance itself does not burn, but in contact with combustible substances it increases the risk of fire and can fuel any existing fire substantially. In the event of fire and/or explosion do not breathe fumes. |
|--------------------------------------|--|

5.3. Advice for firefighters

| | |
|--------------------|---|
| Special protective | : In the event of fire, wear self-contained breathing |
|--------------------|---|

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equipment for firefighters : apparatus. Wear personal protective equipment.
 Further advice : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment. Keep away unprotected persons. Ensure adequate ventilation. Avoid contact with skin and eyes. Do not breathe gas/fumes/vapour/spray. For personal protection see section 8.

6.2. Environmental precautions

Environmental precautions : Do not flush into surface water or sanitary sewer system.

6.3. Methods and materials for containment and cleaning up

Methods and materials for containment and cleaning up : Use mechanical handling equipment. Keep in suitable, closed containers for disposal.

: 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).

Further information : Treat recovered material as described in the section "Disposal considerations".

6.4. Reference to other sections

For personal protection see section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling : Keep container tightly closed. Avoid formation of respirable particles. Avoid contact with skin, eyes and clothing. Do not breathe vapours/dust. Use respirator with appropriate filter if vapours or aerosol are released. Use personal protective equipment. Emergency eye wash fountains and emergency showers should be available in the immediate vicinity.

Hygiene measures : Keep away from food, drink and animal feedingstuffs. Smoking, eating and drinking should be prohibited in the application area. Wash hands before breaks and at the end of workday. Take off all contaminated clothing immediately. Provide adequate ventilation. Avoid contact with the skin and the eyes.

7.2. Conditions for safe storage, including any incompatibilities

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| | |
|---|---|
| Requirements for storage areas and containers | : Keep only in the original container. |
| Advice on protection against fire and explosion | : Contact with combustible material may cause fire. Keep away from sources of ignition - No smoking. Oxidizing |
| Further information on storage conditions | : Keep tightly closed in a dry and cool place. Keep away from heat. Store away from flammable substances. Store away from reducing agents. Store away from acids. |
| Advice on common storage | : Keep away from combustible material. Keep away from food, drink and animal feedingstuffs. |
| Storage temperature | : < 35 °C |

7.3. Specific end use(s)

Specific use(s) : No information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| Component: | Calcium dihydroxide | CAS-No. 1305-62-0 |
|---|---------------------|-------------------|
| Other Occupational Exposure Limit Values | | |

UK. EH40 Workplace Exposure Limits (WELs), Time Weighted Average (TWA):
5 mg/m³

EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, Time Weighted Average (TWA):
5 mg/m³
Indicative

ELV (IE), Time Weighted Average (TWA):
5 mg/m³
Indicative OELV

8.2. Exposure controls

Appropriate engineering controls

Refer to protective measures listed in sections 7 and 8.

Personal protective equipment

Respiratory protection

Advice : When aerosol or mist is formed use suitable respiratory protection.

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Filter Type : (in case of higher concentration)
P2 filter

Hand protection

Advice : The glove material has to be impermeable and resistant to the product / the substance / the preparation.
Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).
Protective gloves should be replaced at first signs of wear.
The following materials are suitable:
polychloroprene
Neoprene gloves

Eye protection

Advice : Tightly fitting safety goggles

Skin and body protection

Advice : Impervious clothing
Chemical resistant apron

Environmental exposure controls

General advice : Do not flush into surface water or sanitary sewer system.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Form : tablet
Colour : Whitish
Odour : characteristic
Odour Threshold : no data available
pH : 10.5 - 11.5 (10 g/l ; 20 °C)
Melting point/range : 100 °C
Boiling point : no data available
Flash point : no data available
Evaporation rate : no data available

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| | | |
|--|---|---|
| Flammability (solid, gas) | : | Contact with combustible material may cause fire. |
| Upper explosion limit | : | no data available |
| Lower explosion limit | : | no data available |
| Vapour pressure | : | no data available |
| Relative vapour density | : | no data available |
| Density | : | 1.3 g/cm ³ (20 °C) |
| Water solubility | : | 217 g/l (20 °C) |
| Partition coefficient: n-octanol/water | : | no data available |
| Auto-ignition temperature | : | no data available |
| Thermal decomposition | : | 170 - 180 °C |
| Viscosity, dynamic | : | no data available |
| Explosivity | : | Product is not explosive. |
| Oxidizing properties | : | no data available |

9.2. Other information

No further information available.

SECTION 10: Stability and reactivity**10.1. Reactivity**

Advice : No information available.

10.2. Chemical stability

Advice : No decomposition if stored and applied as directed.
No further information available.

10.3. Possibility of hazardous reactions

Hazardous reactions : Contact with combustible material may cause fire. Strong oxidizing agents Amines and alcohols cause exothermic reactions. Contact with acids liberates very toxic gas. Reacts with alkalis.

10.4. Conditions to avoid

Conditions to avoid : > 35 °C
Thermal decomposition : 170 - 180 °C

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10.5. Incompatible materials

Materials to avoid : Keep away from combustible material.

10.6. Hazardous decomposition products

Hazardous decomposition products : Toxic gases, chlorine oxides

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Data for the product

Acute toxicity

Oral

no data available

Inhalation

no data available

Dermal

no data available

Irritation

Skin

Result : corrosive effects

Eyes

Result : corrosive effects
Risk of serious damage to eyes.

Sensitisation

Result : No sensitizing effect known.

CMR effects

CMR Properties

Carcinogenicity : no data available

Mutagenicity : no data available

Reproductive toxicity : no data available

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Specific Target Organ Toxicity
Single exposure

no data available

Repeated exposure

no data available

Other toxic properties
Repeated dose toxicity

no data available

Aspiration hazard

no data available

Further information

Other relevant toxicity : If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.

Component: calcium hypochlorite CAS-No. 7778-54-3

Acute toxicity
Oral

LD50 : 850 mg/kg (Rat)

SECTION 12: Ecological information
12.1. Toxicity
Data for the product
Acute toxicity
Fish

LC50 : 0.088 mg/l (Lepomis macrochirus (Bluegill sunfish); 96 h) (Toxicity to fish) Very toxic to fish.

LC50 : 0.16 mg/l (Oncorhynchus mykiss (rainbow trout); 96 h)

Toxicity to daphnia and other aquatic invertebrates

LC50 : 0.11 mg/l (Daphnia magna (Water flea); 48 h) (Toxicity to daphnia)

Short-term (acute) aquatic hazard

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Result : Very toxic to aquatic organisms.

12.2. Persistence and degradability

Data for the product

Persistence and degradability

Persistence

Result : Inorganic product which is not removable from water by biological processes.

12.3. Bioaccumulative potential

12.4. Mobility in soil

12.5. Results of PBT and vPvB assessment

12.6. Other adverse effects

Data for the product

Additional ecological information

Result : Do not flush into surface water or sanitary sewer system.
Avoid subsoil penetration.
Harmful effects to aquatic organisms due to pH-shift.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

- Product : Disposal together with normal waste is not allowed. Special disposal required according to local regulations. Do not let product enter drains. Contact waste disposal services.
- Contaminated packaging : Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning. Packagings that cannot be cleaned are to be disposed of in the same manner as the product.
- European Waste Catalogue Number : No waste code according to the European Waste Catalogue can be assigned for this product, as the intended use dictates the assignment. The waste code is established in consultation with the regional waste disposer.

SECTION 14: Transport information

HTH Briquettes (All grades)

14.1. UN number

|| 1748

14.2. UN proper shipping name

|| ADR : CALCIUM HYPOCHLORITE MIXTURE, DRY
 || RID : CALCIUM HYPOCHLORITE MIXTURE, DRY
 || IMDG : CALCIUM HYPOCHLORITE MIXTURE, DRY

14.3. Transport hazard class(es)

| | |
|--|---------------------------|
| ADR-Class (Labels; Classification Code; Hazard identification No; Tunnel restriction code) | : 5.1 5.1; O2; 50; (E) |
| RID-Class (Labels; Classification Code; Hazard identification No) | : 5.1 5.1; O2; 50 |
| IMDG-Class (Labels; EmS) | : 5.1 5.1; F-H, S-Q |

14.4. Packaging group

|| ADR : III
 || RID : III
 || IMDG : III

14.5. Environmental hazards

|| Environmentally hazardous according to ADR : yes
 || Environmentally hazardous according to RID : yes
 || Marine Pollutant according to IMDG-Code : 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

IMDG : Not applicable.

SECTION 15: Regulatory information

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

15.2. Chemical safety assessment

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no data available

SECTION 16: Other information**Full text of R-phrases referred to under sections 2 and 3.**

| | |
|-----|---|
| R 8 | Contact with combustible material may cause fire. |
| R22 | Harmful if swallowed. |
| R31 | Contact with acids liberates toxic gas. |
| R34 | Causes burns. |
| R36 | Irritating to eyes. |
| R41 | Risk of serious damage to eyes. |
| R50 | Very toxic to aquatic organisms. |

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

| | |
|------|--|
| H272 | May intensify fire; oxidizer. |
| H302 | Harmful if swallowed. |
| H314 | Causes severe skin burns and eye damage. |
| H318 | Causes serious eye damage. |
| H319 | Causes serious eye irritation. |
| H335 | May cause respiratory irritation. |
| H400 | Very toxic to aquatic life. |

Abbreviations and Acronyms

| | |
|---------------|---|
| BCF | bioconcentration factor |
| BOD | biochemical oxygen demand |
| CAS | Chemical Abstracts Service |
| CLP | Classification, Labelling and Packaging |
| CMR | carcinogenic, mutagenic or toxic to reproduction |
| COD | chemical oxygen demand |
| DNEL | derived no-effect level |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| ELINCS | European List of Notified Chemical Substances |
| GHS | Globally Harmonized System of Classification and Labelling of Chemicals |
| LC50 | median lethal concentration |
| LOAEC | lowest observed adverse effect concentration |
| LOAEL | lowest observed adverse effect level |
| LOEL | lowest observed effect level |
| NLP | no-longer polymer |
| NOAEC | no observed adverse effect concentration |
| NOAEL | no observed adverse effect level |
| NOEC | no observed effect concentration |
| NOEL | no observed effect level |
| OECD | Organisation for Economic Cooperation and Development |

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| | |
|-------------|---|
| OEL | occupational exposure limit |
| PBT | persistent, bioaccumulative and toxic |
| PNEC | predicted no-effect concentration |
| STOT | specific target organ toxicity |
| SVHC | substance of very high concern |
| UVCB | substance of unknown or variable composition, complex reaction products or biological materials |
| vPvB | very persistent and very bioaccumulative |

Further information

Key literature references and sources for data : Supplier information and data from the "Database of registered substances" of the European Chemicals Agency (ECHA) were used to create this safety data sheet.

Methods used for product classification : The classification for human health, physical and chemical hazards and environmental hazards were derived from a combination of calculation methods and if available test data.

Hints for trainings : The workers have to be trained regularly on the safe handling of the products based on the information provided in the Safety Data Sheet and the local conditions of the workplace. National regulations for the training of workers in the handling of hazardous materials must be adhered to.

Other information : The information provided in this Safety Data Sheet is correct to our knowledge at the date of its revision. The information given only describes the products with regard to safety arrangements and is not to be considered as a warranty or quality specification and does not constitute a legal relationship.
The information contained in this Safety Data Sheet relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

|| Indicates updated section.