

1. **Identification of the substance/mixture and of the company/ undertaking**

1.1 **Product identifier**

Trade name : hth® BRIQUETTE  
CAS-No. : 7778-54-3  
EC-No. : 231-908-7  
Index No. : 017-012-00-7

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

**Application of the substance/  
the preparation** : Water treatment  
Water disinfectant

1.3 **Details of the supplier of the safety data sheets**

Company : SIS Chemicals Ltd , 22 Whitefield Road, New Milton  
Hampshire. BH25 6DF  
Telephone : 01425 621021  
Fax : 01425 618191  
Email : [sales@sischem.co.uk](mailto:sales@sischem.co.uk)

1.4 **Emergency telephone number**

Emergency telephone : Emergency only telephone number (open 24 hours):  
Number 01865 407333 (N.C.E.C. Culham)

2. **Hazards identification**

2.1 **Classification of substance or mixture**

**Classification according to Regulation (EC) No 1272 / 2008**



GHS03 flame over circle

Ox. Sol. 2                      H272    May intensify fire; oxidiser



GHS05 corrosion

Skin Corr. 1B                      H314    Causes severe skin burns and eye damage



GHS09 environment

Aquatic Acute 1            H400    Very toxic to aquatic life



GHS07

Acute Tox. 4            H302    Harmful if swallowed  
STOT SE 3            H335    May cause respiratory irritation

**Classification according to Directive 67/548/EEC or directive 1999/45 EC**



; Corrosive

R34    Causes burns



Xn; Harmful

R22    Harmful if swallowed



O; Oxidising

R8    Contact with combustible material may cause fire



N; Dangerous for the environment

R50    Very toxic to aquatic organisms

R31    Contact with acids liberates toxic gas

**Information concerning to particular hazards to man and environment – not applicable**

## 2.2 Label elements

### Labelling according to Regulation (EC) No 1272/2008

This substance is classified and labelled according to the CLP regulation

Hazard pictograms



GHS03 GHS05 GHS07 GHS09

Signal word Danger

Hazard-determining components of labelling:

Calcium hypochlorite

Hazard statements

H272 May intensify fire; oxidizer  
H302+EUH031 Harmful if swallowed. Contact with acids liberates toxic gas  
H314 Causes severe skin burns and eye damage  
H335 May cause respiratory irritation  
H400 Very toxic to aquatic life  
Warning! Do not use together with other products. May release dangerous gases (chlorine)

Precautionary statements

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  
P210 Keep away from heat/sparks/open flames/hot surfaces – No smoking  
P220 Keep/store away from clothing /combustible materials  
P221 Take any precaution to void mixing with combustibles  
P260 Do not breathe dust/fume/gas/mist/vapours/spray  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray  
P264 Wash 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  
P301+P312 IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell.  
P301+P330+P331 IF SWALLOWED: rinse mouth. Do not induce vomiting  
P303+P361+P353: IF ON SKIN (or hair): Remove / Take off immediately all contaminated clothing. Rinse skin with water/shower  
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310 Immediately call a POISON CENTRE or doctor/physician  
P312 Call a POISON CENTRE or doctor/physician if you feel unwell  
P330 Rinse mouth  
P363 Wash contaminated clothing before reuse  
P370+P378 In case of fire: Use for extinction: Water  
P391 Collect spillage  
P403+P233 Store in a well-ventilated place. Keep container tightly closed  
P405 Store locked up  
P501 Dispose of contents/container in accordance with local / regional / national /international regulations

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: not applicable vPvB: Not applicable

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3. Composition / information on ingredients

3.1 **Chemical characterization : Substances**

**CAS No. Description:**

7778-54-3 calcium hypochlorite

**Identification number (s):**

**EC Number:** 231-908-7

**Index number:** 017-012-00-7

**Impurities and stabilizing additives:**

CAS: 471-34-1 calcium carbonate

EINECS: 207-439-9

CAS: 10043-52-4 calcium chloride

EINECS: 233-140-8



Xi, R36



Eye irrit. 2, H319

CAS: 1305-62-0 calcium dihydroxide

EINECS: 215-137-3



Xi, R41



Eye Dam. 1, H318

CAS: 10137-74-3 calcium chlorate

EINECS: 233-378-2



Ox. Liq. 2, H272

CAS: 7647-14-5 sodium chloride

EINECS: 231-598-3

**Dangerous components**

CAS: 7778-54-3 calcium hypochlorite

EINECS: 231-908-7



Calc, R34



Cor, R22



Ox, R8



Env, R50, R51, R52, R53, R50, R31



Ox. Sol. 2, H272



Cor. 1B, H314



Aquatic Acute 1, H400



Acute Tox. 4, H302

CAS: 10043-52-4 calcium chloride

EINECS: 233-140-8



Xi, R36



Eye Irrit. 2, H319

<2%

CAS: 1305-62-0 calcium dihydroxide

EINECS: 215-137-3



Xi, R41



Eye Dam. 1, H318

<3%

CAS: 10137-74-3 calcium chlorate

EINECS: 233-378-2



Ox. Liq. 2, H272

<2%

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4. **First aid measures**

4.1 **Description of first aid measures**

**General advice** : Take affected persons out into fresh air.  
Immediately remove any clothing soiled by the product.  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

**Inhalation** : In case of unconsciousness place patient stably in side position for transportation.

**Skin contact** : Rinse with warm water  
Immediately wash with water and soap and rinse thoroughly

**Eye contact** : Rinse opened eye for at least 15 minutes under running water.  
Then Consult doctor

**Ingestion** : Rinse out mouth and then drink plenty of water  
Call for a doctor immediately  
Drink plenty of water and provide fresh air. Call for a doctor immediately.

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

Breathing difficulty  
Coughing  
Nausea  
Gastric or intestinal disorders .

5. **Fire- fighting measures**

5.1 **Extinguishing media**

**Suitable extinguishing agents** : Water spray

**For safety reasons unsuitable extinguishing agents:** Extinguishing powder

5.2 **Special hazards arising from the substance or mixture**

Carbon monoxide (CO)  
Hydrogen chloride (HC1)

5.3 **Advice for firefighters**

**Protective equipment** : Mount respiratory protective device

6. **Accidental release measures**

6.1 **Person precautions, protective equipment and emergency procedures**

Mount respiratory device  
Wear protective equipment. Keep unprotected persons away

6.2 **Environmental protection**

Keep contaminated washing water and dispose of appropriately  
Do not allow product to reach sewage system or any water course  
Inform respective authorities in case of seepage into water course or sewage system.  
Do not allow to enter sewers / surface or ground water.

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**6.3 Methods and material for containment and cleaning up:**

Use neutralizing agent  
Dispose contaminated material as waste according to item 13  
Ensure adequate ventilation

**6.4 Reference to other sections**

See Section 7 for information on safe handling  
See Section 8 for information on personal protection equipment  
See Section 13 for disposal information

**7. Handling and storage**

**7.1 Precautions for safe handling**

Any unavoidable deposit of dust must be regularly removed  
Thorough dedusting

**Handling**

**DO NOT MIX WITH OTHER PRODUCTS  
DO NOT DISSOLVE BEFORE USE**

**Information about fire- and explosion protection :** Substance / product is oxidizing when dry

**7.2 Conditions for safe storage, including any incompatibilities**

**Storage**

**Requirements to be met by storerooms and receptacles :**

Store only in unopened original receptacles  
Do not store product where the average daily temperature exceed 35°C. Storage above this temperature may result in rapid decomposition, evolution of chlorine gas and heat sufficient to ignite combustible products.

**Information about storage in one common storage facility :**

Store away from flammable substances  
Store away from reducing agents  
Do not store together with acids

**Further information about storage conditions:** Keep receptacle tightly sealed

**8. Exposure controls / personal protection**

**Additional information about design of technical system:** No further data; see Section 7

**8.1 Control Parameters**

**Ingredients with limit values that require monitoring at the workplace:** Not required  
**Additional information:** The lists valid during the making were used as basis.

**8.2 Exposure controls**

**Personal protective equipment**

**General protective and hygienic measures**

Keep away from foodstuffs, beverages and feed  
Take off immediately all contaminated clothing  
Wash hands during breaks and at the end of the work  
Avoid contact with the eyes and skin

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**Respiratory protection**

Use suitable respiratory protective device only when aerosol or mist is formed.  
Use suitable respiratory protective device when high concentrations are present  
Filter P2

**Protection of hands**

Neoprene gloves



Protective gloves

The glove material has to be impermeable and resistant to the product / the substance / the preparation  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation  
/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and  
the degradation.

**Material of gloves**

Chloroprene rubber, CR

The selection of the suitable glove does not only depend on the material, but also on further marks of quality  
and varies from manufacturer to manufacturer .

**Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be  
observed.

**Eye protection**



Tightly sealed goggles

**Body protection** : Protective work clothing

**9. Physical and chemical properties**

**9.1 General Information**

Form	: Tablets
Colour	: White
Odour	: Like chlorine
Odour Threshold	: Not determined
pH-value (10g/l) at 20°C	: 10.5 / 11.5
Change in condition	
Melting point / Melting range	: 100 (Zers.)°C
Boiling point /Boiling range	: undetermined

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Flash point	: Not applicable
Flammability (solid, gaseous)	: Contact with combustible material may cause fire
Ignition temperature	:
Decomposition temperature	: 170 - 180° C
Self-igniting	: Not determined
Danger of explosion	: Not determined
Explosion limits:	
Lower	: Not determined
Upper	: Not determined
Vapour pressure	: Not applicable
Density at 20°C	: 1.3 g/cm <sup>3</sup>
Relative density	: Not determined
Vapour density	: Not applicable
Evaporation rate	: Not applicable
Solubility in / Miscibility with Water at 20°C	: 217 g/l
Segregation coefficient (n-octanol/water)	: Not determined
Viscosity:	
Dynamic	: Not applicable
Kinematic	: Not applicable
Organic solvents	: 0.0%
Solids content	: 100.0%

## 10. Stability and reactivity

### 10.1 Reactivity

### 10.2 Chemical stability

#### **Thermal decomposition / conditions to be avoided**

Do not store product where the average daily temperature exceeds 35°C.

Storage above this temperature may result in rapid decomposition, evolution of chlorine gas and heat sufficient to ignite combustible products.

### 10.3 Possibility of hazardous reactions

NEVER MIX THIS PRODUCT WITH ORGANIC CHLORINE (TRICHLOR OR DICHLOR) WITHIN THE SAME CONTAINER

Reacts with strong oxidizing agents

Reacts with alcohols, amines, aqueous acids and alkalis

Reacts with flammable substances

### 10.4 Conditions to avoid – No further relevant information available

### 10.5 Incompatible materials – Warning! Do not use together with other products. May release dangerous gases (chlorine)

### 10.6 Hazardous decomposition products : Poisonous gases / vapours

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11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD/LC50 values that are relevant for classification:

**7778-54-3 calcium hypochlorite**

Oral LD50 850mg/kg (rat)

**Primary irritant effect:**

**On the skin** : Caustic effect on skin and mucous membranes

**On the eye** : Strong caustic effect

**Sensitization** : No sensitizing effect known

**Additional toxicological information:**

Swallowing will lead to strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

12. Ecological information

12.1 Toxicity

**Aquatic toxicity :**

No further relevant information available

**7778-54-3 calcium hypochlorite**

Oral LC50 – 48 hrs. 0.11 mg/l (dm)

LC50 – 96 hrs. 0.088 mg/l (pl)

0.16 mg/l (rainbow trout)

LD/LC50 3474 mg/kg (cb)

>5000 mg/kg (cb) (Dietary)

>5000 mg/kg (cm) (Dietary)

12.2 Persistence and degradability

Anorganic product, is not removable from water by biological cleaning process

12.3 Bioaccumulative potential No further relevant information available

12.4 Mobility in soil No further relevant information available

**Ecotoxicological effects:**

**Remarks :** Very toxic for fish

**Additional ecological information:**

**General notes:**

Water hazard class 2 (German Regulation0 (Self-assessment): hazardous for water.

Do not allow product to reach ground water , water course or sewage system.

Must not reach sewage water or drainage ditch undiluted or unneutralised.

Danger to drinking water if even small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

Very toxic for aquatic organisms.

12.5 Results of PBT and vPvB assessment

**PBT:** Not applicable

**vPvB:** Not applicable

12.6 Other adverse effects No further relevant information available

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13. Disposal considerations

13.1 Waste treatment methods

**Recommendation**

Must be specially treated adhering to official regulations

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

**Uncleaned packagings;**

**Recommendation :** Disposal must be made according to official regulations

14. Transport information

14.1 UN-Number UN1748  
ADR, IMDG, IATA

14.2 UN proper shipping name  
ADR 1748 CALCIUM HYPOCHLORITE MIXTURE, DRY  
IMDG CALCIUM HYPOCHLORITE MIXTURE, DRY, MARINE POLLUTANT  
IATA CALCIUM HYPOCHLORITE MIXUTRE, DRY

14.3 Transport hazard class(es)

ADR



Class : 5.1 (O2) Oxidising substances  
Label : 5.1

IMDG



Class : 5.1 Oxidising substances  
Label : 5.1

IATA



Class : 5.1 Oxidising substance  
Label : 5.1

14.4 Packaging group  
ADR, IMDG, IATA : III

14.5 Environmental hazards:  
Marine pollutant : Yes  
: Symbol (fish and tree)  
Special markings (ADR) : Symbol (fish and tree)

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- 14.6 **Special precautions for user** : Warning: Oxidising substances  
**Danger code (Kemler)** : 50  
**EMS Number** : F-H, S-Q  
**Segregation groups** : Hypochlorites
- 14.7 **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** : Not applicable
- Transport / Additional information :**  
**ADR**  
**Excepted quantities (EQ):** : E1  
**Limited quantities (LQ)** : 5 kg  
**Tunnel restriction code** : E  
**UN " Model Regulation "** : UN1748, CALCUIM HYPOCHLORITE MIXTURE.DRY, 5,1,III

15. **Regulatory information**

**Directive 98/8/EC**

Best before: see date on packaging

Providing this contain when empty is thoroughly rinsed out in the pool, it may be disposed of via the recycling scheme.

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

**National regulations:**

**Waterhazard class:** Water hazard class 2 (Self-assessment): hazardous for water.

16. **Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

**Relevant R-phrases**

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  
H400 Very toxic to aquatic life

R8 Contact with combustible material may cause fire  
R22 Harmful if swallowed  
R31 Contact with acid liberates toxic gas  
R34 Causes burns  
R36 Irritating to eyes  
R41 Risk of serious damage to eyes  
R50 Very toxic to aquatic organisms

Date of issue: 23<sup>rd</sup> April 2014

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