MATERIAL SAFETY DATA SHEET

HTH GRANULES (ALL GRADES)

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

1.1. Product identifier

Product name:	HTH GRANULES (ALL GRADES)
CAS Number:	7778-54-3
EC Number:	231-908-8

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

Product use:	Disinfectant, Water treatment chemical

1.3 Details of the supplier of the safety data sheet

Company name:	East Harbour Group Ltd 20 Clough Road, Severalls Industrial Park Colchester, Essex, CO4 9QS United Kingdom
Telephone:	+44 (0) 333 242 0100
Email:	info@eastharbourgroup.com

1.4 Emergency telephone number

Emergency telephone:	0800 246 1274

Section 2: Hazardous 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	Sub-category 1B	-	H314
Short-term (acute) aquatic hazard	Category 1	-	H400

For the full text of the H-Statements 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.

HTH GRANULES (ALL GRADES)

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

H272 May intensify fire; oxidizer.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H400 Very toxic to aquatic life.

Precautionary statements

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:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P220 Keep away from clothing and other combustible materials.
P260 Do not breathe 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.

Response:

P301 + P312 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310 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.
P363 Wash contaminated clothing before reuse.

	P370 + P378 In case of fire: Use water spray to extinguish. P391 Collect spillage.
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/regional/international regulations.

Additional Labelling:
EUH031 Contact with acids liberates toxic gas.
EUH206 Warning! Do not use together with other products. May release dangerous gases (chlorine).

Hazardous components which must be listed on the label:
• calcium hypochlorite
• Calcium dihydroxide

2.3. Other hazards
For Results of PBT and vPvB assessment see section 12.5.

Section 3: Composition/information on ingredients

3.1. Substances
Classification (REGULATION (EC) No 1272/2008)

Hazardous components	Amounts [%]	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 Aquatic Acute1	H272 H302 H314 H400
Calcium dihydroxide CAS-No.: 1305-62-0 EC-No.: 215-137-3	< 3	Eye Dam.1	H318
Calcium chloride Index-No.: 017-013-00-2 CAS-No.: 10043-52-4 EC-No.: 233-140-8	< 2	Eye Irrit.2	H319
Calcium chlorate CAS-No.: 10137-74-3 EC-No.: 233-378-2	< 2	Ox. Sol.2	H272

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

HTH GRANULES (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: Fire-fighting measures

5.1 Fire Fighting Media and Instructions:
Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Suitable extinguishing media, water spray
Unsuitable extinguishing media: High volume water jet, Dry powder

5.2 Special hazards arising from the substance or mixture
Specific hazards during firefighting: Heating or fire can release toxic gas.
Hazardous combustion products: Carbon monoxide, Hydrogen chloride

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

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6.2 Environmental precautions

Environmental precautions: Should not be released into the environment. Local authorities should be advised if significant spillages cannot be contained.

6.3. Methods and material 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

See Section 1 for emergency contact information.
See Section 8 for information on personal protective equipment.
See Section 13 for waste treatment information.

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 feeding stuffs. 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.

7.2 Conditions for safe storage, including any incompatibilities

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 feeding stuffs.
Storage temperature: < 35 °C

7.3. Specific end use(s) Specific use(s):

No information available.

HTH GRANULES (ALL GRADES)

Section 8: Exposure controls/personal protection

8.1 Control parameters

Component	Calcium Carbonate	CAS No. 471-34-1
Other Occupational Exposure Limit Values		
UK. EH40 Workplace Exposure Limits (WELs), as amended, Time Weighted Average (TWA):, Respirable dust. 4 mg/m3 UK. EH40 Workplace Exposure Limits (WELs), as amended, Time Weighted Average (TWA):, Inhalable dust. 10 mg/m3 UK. EH40 Workplace Exposure Limits (WELs), as amended, Time Weighted Average (TWA):, Respirable. 4 mg/m3 UK. EH40 Workplace Exposure Limits (WELs), as amended, Time Weighted Average (TWA):, Inhalable 10 mg/m3 ELV (IE), Time Weighted Average (TWA):, Total inhalable dust. 10 mg/m3 ELV (IE), Time Weighted Average (TWA):, Respirable dust. 4 mg/m3		

Component	Calcium Carbonate	CAS No. 471-34-1
Other Occupational Exposure Limit Values		
UK. EH40 Workplace Exposure Limits (WELs), as amended, Time Weighted Average (TWA): 5 mg/m3 EU. Indicative Occupational Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, as amended, Time Weighted Average (TWA):, Respirable fraction. 1 mg/m3 Indicative EU. Indicative Occupational Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, as amended, Short Term Exposure Limit (STEL):, Respirable fraction. 4 mg/m3 Indicative UK. EH40 Workplace Exposure Limits (WELs), as amended, Time Weighted Average (TWA):, Respirable fraction. 1 mg/m3 UK. EH40 Workplace Exposure Limits (WELs), as amended, Short Term Exposure Limit (STEL):, Respirable fraction. 4 mg/m3, (15 minutes) ELV (IE), Short Term Exposure Limit (STEL):, Respirable fraction. 4 mg/m3, (15 minutes) Indicative OELV ELV (IE), Time Weighted Average (TWA):, Respirable fraction. 1 mg/m3 Indicative OELV ELV (IE), Time Weighted Average (TWA):, Respirable fraction. 1 mg/m3 Indicative OELV ELV (IE), Short Term Exposure Limit (STEL):, Respirable fraction. 4 mg/m3, (15 minutes) Indicative OELV		

Other Occupational Exposure Limit Values
UK. EH40 Workplace Exposure Limits (WELs), as amended, Time Weighted Average (TWA): 5 mg/m3 EU. Indicative Occupational Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, as amended, Time Weighted Average (TWA):, Respirable fraction. 1 mg/m3 Indicative EU. Indicative Occupational Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, as amended, Short Term Exposure Limit (STEL):, Respirable fraction. 4 mg/m3 Indicative UK. EH40 Workplace Exposure Limits (WELs), as amended, Time Weighted Average (TWA):, Respirable fraction. 1 mg/m3

UK. EH40 Workplace Exposure Limits (WELs), as amended, Short Term Exposure Limit (STEL):, Respirable fraction. 4 mg/m3, (15 minutes) ELV (IE), Short Term Exposure Limit (STEL):, Respirable fraction. 4 mg/m3, (15 minutes) Indicative OELV ELV (IE), Time Weighted Average (TWA):, Respirable fraction. 1 mg/m3 Indicative OELV ELV (IE), Time Weighted Average (TWA):, Respirable fraction. 1 mg/m3 Indicative OELV ELV (IE), Short Term Exposure Limit (STEL):, Respirable fraction. 4 mg/m3, (15 minutes) 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: In case of brief exposure or low pollution use breathing filter apparatus. In case of intensive or longer exposure use self-contained breathing apparatus.
Filter Type: 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

Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form:	granular
Colour:	white
Odour:	chlorine-like
Odour Threshold:	no data available
pH:	11.5
Melting point/range:	100 °C
Boiling point:	no data available
Flash point:	Not applicable
Evaporation rate:	no data available
Flammability (solid, gas):	The product is not flammable.
Upper explosion limit:	no data available
Lower explosion limit:	no data available
Vapour pressure:	no data available
Relative vapour density:	no data available
Density:	0.9 g/cm3 (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 alkalies.
Hazardous reactions: Never mix this product with Organic Chlorine (Trichlor or Dichlor) within the same container.
10.4. Conditions to avoid
Conditions to avoid: > 35 °C
Thermal decomposition: 170 - 180 °C
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
Inhalation
LD50: > 1300 g/l (Rat)
Irritation
Skin
Result: Corrosive effects
Causes severe skin burns and eye damage.
Eyes
Result: Corrosive effects
Causes severe skin burns and eye damage.

Sensitisation
Result No sensitising effect known.
CMR Effects
CMR Properties
Carcinogenicity: Based on available data, the classification criteria are not met.
Mutagenicity: Based on available data, the classification criteria are not met.
Teratogenicity: Based on available data, the classification criteria are not met.
Reproductive toxicity: Based on available data, the classification criteria are not met.
Other toxic properties
Aspiration hazard
Based on available data, the classification criteria are not met.,
Further information
Other relevant toxicity information: 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)
Inhalation no data available
Dermal
LD50: > 2000 mg/kg (Rabbit)
Irritation
Result Very Corrosive (Rabbit)
Eyes
Result Causes serious eye damage (Rabbit)
Sensitisation
Result: Did not cause sensitisation on laboratory animals.
Specific Target Organ Toxicity
Single exposure
Remarks: no data available
Repeated exposure
Remarks: no data available

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)

Component:	calcium hypochlorite CAS-No. 7778-54-3 Acute toxicity Fish
LC50:	0.088 mg/l (Lepomis macrochirus (Bluegill sunfish); 96 h)
LC50:	0.16 mg/l (Oncorhynchus mykiss (rainbow trout); 96 h)

Toxicity to daphnia and other aquatic invertebrates

EC50:	0.11 mg/l (Daphnia magna (Water flea); 48 h)

Algae	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.

Component:	Calcium hypochlorite CAS-No. 7778-54-3 Persistence and degradability Persistence
Result:	no data available

Biodegradability

Result:	The methods for determining the biological degradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

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

Bioaccumulation

Result:	no data available

12.4. Mobility in soil

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

Mobility Water: The product is water soluble.

12.5. Results of PBT and vPvB assessment

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

Results of PBT and vPvB assessment

Result: The PBT or vPvB criteria of Annex XIII to the REACH Regulation does not apply to inorganic substances.

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.

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

Additional ecological information

Result: no data available

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 packaging's thoroughly. They can be recycled after thorough and proper cleaning. If recycling is not practicable, dispose of in compliance with local regulations.

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

14.1. UN number 2880

14.2. UN proper shipping name

ADR: CALCIUM HYPOCHLORITE, HYDRATED MIXTURE
RID: CALCIUM HYPOCHLORITE, HYDRATED MIXTURE
IMDG: CALCIUM HYPOCHLORITE, HYDRATED MIXTURE

14.3. Transport hazard class(es)

ADR-Class: 5.1
(Labels; Classification Code; Hazard Identification Number; Tunnel restriction code) 5.1; O2; 50; (E)

RID-Class: 5.1
(Labels; Classification Code; Hazard Identification Number) 5.1; O2; 50
IMDG-Class: 5.1
(Labels; EmS) 5.1; F-H, S-Q

14.4. Packaging group

ADR: II
RID: II
IMDG: II

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.

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

Section 15: Regulatory Information

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

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

EU. Regulation No 1451/2007 [Biocides], Annex I, OJ (L 325):
EC Number: 231-908-7; Listed

EU. Directive 2012/18/EU (SEVESO III) Annex I:
Lower-tier requirements: 50 tonnes; Part 1: Categories of dangerous substances; P8: Oxidising Liquids or solids, Category 1, 2 or 3
Upper-tier requirements: 200 tonnes; Part 1: Categories of dangerous substances; P8: Oxidising Liquids or solids, Category 1, 2 or 3
Lower-tier requirements: 100 tonnes; Part 1: Categories of dangerous substances; E1: Hazardous to the Aquatic Environment in Category Acute 1 or Chronic 1
Upper-tier requirements: 200 tonnes; Part 1: Categories of dangerous substances; E1: Hazardous to the Aquatic Environment in Category Acute 1 or Chronic 1
UK. Releases to air and water (UK ISR): Annual reporting level threshold: 10,000 kg
AwSV (DE): WGK 2: obviously hazardous to water: 2,062

15.2. Chemical safety assessment
no data available

Section 16: Other Information

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.
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
OEL	occupational exposure limit
PBT	persistent, bioaccumulative and toxic
REACH Auth. No.:	REACH Authorisation Number
REACH AuthAppC. No.	REACH Authorisation Application Consultation Number
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

HTH GRANULES (ALL GRADES)

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.

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