

Safety Data Sheet

*According to Regulation (EC) No 2015/830

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

Trade name: Bleach

Code(s): A070

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

For professional and industrial use only.

Sodium Hypochlorite Based Solution for Bleaching

Uses advised against:

Uses other than those identified are not recommended

1.3 Details of the supplier of the safety data sheet

William Clements (Chemicals) Ltd
The Old Transport Museum
Witham Street
Belfast
BT4 1HP
United Kingdom
Tel: +44 (0) 28 9073 8395
Fax: +44 (0) 28 9045 0532
Email: info@clementschemicals.com

1.4 Emergency telephone number

+44 (0) 28 9073 8395 8.00am – 5.00pm Monday - Friday

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture**

The product has been classified and labelled in accordance with Regulation (EC) No 1272/2008.

***2.1.2 Classification – EC 1272/2008:** H290 Metal Corr, Skin Corr. 1B: H314; Aquatic Acute 1: H400.

EUH031 Contact with acids liberates toxic gas.

2.2 Label elements**Signal word:** Danger**Hazard statements:**

EUH031: Contact with acids liberates toxic gas.

H290: May be corrosive to metals

H314: Causes severe skin burns and eye damage.

H400: Very toxic to aquatic life.

Precautionary statements:

P260: Do not breathe dust/fumes/gas/mist/vapours/spray.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P303+361+353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304+340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove

contact lenses, if present and easy to do. Continue rinsing.

P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P310 - Immediately call a POISON CENTER or doctor/physician.

2.3. Other hazards

No other hazards known. The product does not meet the criteria for PBT or vPvB in accordance with Regulation (EC) No 1907/2006, Annex XIII.

SECTION 3: Composition/information on ingredients

***3.2 Mixtures**
EC 1272/2008

Ingredient(s)	EC Number	CAS Number	Reach Number	Classification	Weight percent
SODIUM HYPOCHLORITE SOLUTION	231-668-3	7681-52-9	01-2119488154-34-xxxx	Metal Corr. H290 Skin Corr. 1B H314 Aquatic Chronic1 H400 Lib. toxic gas EUH031	1-5

SECTION 4: First aid measures

4.1 Description of first aid measures

Inhalation

IF INHALED: Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact

IF ON SKIN: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing before reusing. Continue to rinse for at least 15 minutes. Chemical burns must be treated promptly by a physician. Clean shoes thoroughly before reuse.

Eye contact

IF IN EYES: Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 15 minutes. Chemical burns must be treated promptly by a physician.

Ingestion

IF SWALLOWED: Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Self-protection of first aider

No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Inhalation:

Severe respiratory irritant, Symptoms: Breathing difficulties, Cough, Repeated or prolonged exposure: Nose bleeding, chronic bronchitis

Skin contact:

Causes pain or irritation, redness, blistering may occur

Eye contact:

May cause irreversable eye damage. Adverse symptoms may include the following: pain, watering, redness

Ingestion:

If ingested, corrosive burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach. Symptoms: Nausea, Abdominal pain, Bloody vomiting, Diarrhoea, Suffocation, Cough, Severe shortness of breath. Risk of: Respiratory disorder.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically. Take victim immediately to hospital. Immediate medical attention is required. Burns must be treated by a physician. Risk of shock. Medical supervision for minimum 48 hours. Specific toxicological information on substances, if available, can be found in section 11.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Water
- Water spray

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture

- Oxygen released in thermal decomposition may support combustion
- Oxidising

5.3 Advice for firefighters

- In the event of fire, wear self-contained breathing apparatus.
- Use personal protective equipment.
- Wear chemical resistant oversuit
- Cool containers/tanks with water spray.
- Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures****For non-emergency personnel**

- Evacuate personnel to safe areas.
- Keep people away from and upwind of spill/leak.

For emergency responders

- Use personal protective equipment.
- Drying of this product on clothing or combustible materials may cause fire.
- Keep wetted with water.
- Prevent further leakage or spillage.
- Keep away from Incompatible products.

6.2 Environmental precautions

- Discharge into the environment must be avoided.
- Do not flush into surface water or sanitary sewer system.
- In case of accidental release or spill, immediately notify the appropriate authorities if required by Federal, State/Provincial and local laws and regulations.

6.3 Methods and material for containment and cleaning up

- Dam up.
- Soak up with inert absorbent material.
- Prevent product from entering drains.
- Keep in suitable, closed containers for disposal.
- Keep in properly labelled containers.

6.4 Reference to other sections

For personal protective equipment see subsection 8.2. For disposal considerations see section 13.

SECTION 7: Handling and storage**7.1 Precautions for safe handling****Measures to prevent fire and explosions:**

- Use only in well-ventilated areas.
- Use only clean and dry utensils.
- Never return unused material to storage receptacle.
- May not get in touch with:
 - Organic materials
- Keep away from Incompatible products.
- Keep away from heat.

7.2 Conditions for safe storage, including any incompatibilities**7.2.1. Storage**

- Store in original container.
- Store in a well-ventilated place. Keep cool.
- Keep in properly labelled containers.
- Keep container closed.
- Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- Electrical equipment should be protected to the appropriate standard.
- Keep away from incompatible products

7.2.2. Packaging material**7.2.2.1. Suitable material**

- Approved grades of HDPE.

7.3 Specific end use(s)

No specific advice for end use available.

SECTION 8: Exposure controls/personal protection**8.1 Control parameters**

Component: sodium hypochlorite, solution CAS-No. 7681-52-9

Derived No Effect Level (DNEL)/Derived Minimal Effect Level (DMEL)

DNEL

Workers, Local effects, Acute - systemic effects, Inhalation : 3.1 mg/m³

DNEL

Workers, Local effects, Long-term - systemic effects, Inhalation: 1.55 mg/m³

DNEL

Workers, Long-term - local effects, Skin contact: 0.5 %

DNEL

Consumers, Local effects, Long-term - systemic effects, Inhalation: 1.55 mg/m³

DNEL

Consumers, Long-term - systemic effects, Ingestion: 0.26 mg/kg

Predicted No Effect Concentration (PNEC)

Fresh water: 0.21 µg/l
 Marine water: 0.042 µg/l
 Sewage treatment plant (STP): 0.03 mg/l
 Intermittent releases: 0.26 µg/l
 Soil: Exposition is not expected.
 Sediment (Marine water): Exposition is not expected.
 Sediment (Fresh water): Exposition is not expected.
 Component: chlorine CAS-No. 7782-50-5

Other Occupational Exposure Limit Values

EU ELV, Short Term Exposure Limit (STEL): 0.5 ppm, 1.5 mg/m³ Indicative
 EH40 WEL, Short Term Exposure Limit (STEL): 0.5 ppm, 1.5 mg/m³
 ELV (IE), Short Term Exposure Limit (STEL): 0.5 ppm, 1.5 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: Use respirator with appropriate filter if vapours or aerosol are released.

Recommended Filter type: Combination filter:B-P2

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.

Material : natural rubber
 Break through time : >= 8 h
 Glove thickness : 0.5 mm

Material : polychloroprene
 Break through time : >= 8 h
 Glove thickness : 0.5 mm

Material : Polyvinylchloride
 Break through time : >= 8 h
 Glove thickness : 0.5 mm

Material : Nitrile rubber
 Break through time : >= 8 h
 Glove thickness : 0.35 mm

Material : Fluorinated rubber
 Break through time : >= 8 h
 Glove thickness : 0.4 mm

Material : butyl-rubber
 Break through time : >= 8 h
 Glove thickness : 0.5 mm

Eye protection

Advice : Tightly fitting safety goggles

Skin and body protection

Advice : Wear suitable protective clothing.

Environmental exposure controls

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

Avoid subsoil penetration.

If the product contaminates rivers and lakes or drains inform respective authorities.

If material reaches soil inform authorities responsible for such cases.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

9.1.1. General Information

Appearance	liquid
Colour	yellowish
Odour	slight chlorine

9.1.2. Important health safety and environmental information

pH	>11
Freezing point/range	-17C
Boiling point/boiling range	110 C
Flash point	not applicable
Evaporation rate	no data available
Flammability (solid, gas)	The product is not flammable.
Upper explosion limit	not applicable
Lower explosion limit	not applicable
Vapour pressure	no data available
Relative vapour density	no data available
Relative density	1.2 – 1.3 g/cm ³
Water solubility	completely miscible
Partition coefficient: n-octanol/water	no data available
Auto-ignition temperature	not applicable
Thermal decomposition	To avoid thermal decomposition, do not overheat.
Viscosity, dynamic	no data available
Explosive properties	EU legislation: Not explosive
Oxidizing properties	Oxidizing agents

9.2 Other information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

- Decomposes on heating.
- Decomposes on exposure to light.
- Contact with acids liberates toxic gas.

10.2. Chemical stability

- Contact with acids liberates toxic gas.

10.3. Possibility of hazardous reactions

- May develop chlorine if mixed with acidic solutions.
- Fire or intense heat may cause violent rupture of packages.

10.4. Conditions to avoid

- Contamination
- To avoid thermal decomposition, do not overheat.

10.5. Incompatible materials

- Acids, ammonium compounds, Acetic anhydride, Organic materials, metal salts, Copper, Nickel, Iron

10.6. Hazardous decomposition products

- Hydrogen chloride gas, Chlorine, chlorine oxides products

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Component: sodium hypochlorite, solution

CAS-No. 7681-52-9

Acute toxicity

Oral
LD50 > 1100 mg/kg (rat; Test substance: Chlorine) (OECD Test Guideline 401)

Inhalation

LC50 > 10.5 mg/l (rat; 1 h; Test substance: Chlorine) (OECD Test Guideline 403)

Dermal

LD50 > 20000 mg/kg (rabbit; Test substance: Chlorine) (OECD Test Guideline 402)

Irritation

Skin
Result Severe skin irritation (rabbit) (OECD Test Guideline 404)

corrosive effects (human)

Eyes
Result corrosive effects (rabbit) (OECD Test Guideline 405) Risk of serious damage to eyes.

Sensitisation

Result not sensitizing (Buehler Test; guinea pig) (OECD Test Guideline 406)

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.

Genotoxicity in vitro

negative (Ames test; Salmonella typhimurium) (OECD Test Guideline 471)
ambiguous (Chromosome aberration test in vitro; Chinese hamster fibroblasts) (OECD Test Guideline 473)

Genotoxicity in vivo

negative (Chromosome aberration test in vivo; mouse) (OECD Test Guideline 474)
negative (Chromosome aberration test in vivo; mouse) (OECD Test Guideline 475)

ambiguous (Effects on sperm morphology and melotic micronuclei; mouse)

Teratogenicity

NOAEL 5.7 mg/kg
Teratog. (rat)
Test substance Chlorine
Reproductive toxicity

NOAEL 5 mg/kg
Parent (rat) (Oral)
Effects on fertility Test substance Chlorine
Specific Target Organ Toxicity

Single exposure

Inhalation May cause respiratory irritation.
Experience with human exposure

Repeated exposure

remark The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Other toxic properties

Repeated dose toxicity

NOAEL 50 mg/kg
(rat) (Oral; 90 Days) (OECD Test Guideline 408)

Aspiration hazard

No aspiration toxicity classification

SECTION 12: Ecological information**12.1 Toxicity**

Acute toxicity

Fish
LC50 : 0.06 mg/l (Salmo gairdneri; 96 h)
NOEC : 0.04 mg/l (Menidia peninsulae (tidewater silverside); 96 h)

Toxicity to daphnia and other aquatic invertebrates

EC50 : 0.141 mg/l (Daphnia magna (Water flea); 48 h)

algae

NOEC : 0.0021 mg/l (algae; 7 Days)

M-Factor

M-Factor (Acute Aquat. Tox.) : 10

M-Factor (Chron. Aquat. Tox.) : 1

12.2. Persistence and degradability

Persistence and degradability

Persistence

Result : The product can be degraded by abiotic (e.g. chemical or photolytic) processes. decomposition by hydrolysis.

Biodegradability

Result : The methods for determining biodegradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

Bioaccumulation

Result : Does not bioaccumulate.

12.4. Mobility in soil

Mobility

Water : The product is mobile in water environment.
Soil : Highly mobile in soils
Air : not volatile (Henry's Constant)

12.5. Results of PBT and vPvB assessment

Component: sodium hypochlorite, solution CAS-No.
7681-52-9

Results of PBT and vPvB assessment

Result : not applicable

12.6. Other adverse effects

Additional ecological information

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

SECTION 13: Disposal considerations**13.1 Waste treatment methods Waste from residues / unused products:**

Disposal must be done according to official regulations.

- Contact waste disposal services.

13.2. Contaminated packaging

- Empty containers.
- Clean container with water.
- Dispose of rinse water in accordance with local and national regulations.
- Where possible recycling is preferred to disposal or incineration.
- In accordance with local and national regulations.

EURAL Waste code product

20 01 29* - detergents containing dangerous substances

15 01 10* - packaging containing residues of or contaminated by dangerous substances

SECTION 14: Transport information

	ADR/RID	IMDG	IATA	ADN/ADNR
14.1 UN number	UN 1791	UN 1791	UN 1791	UN 1791
14.2 UN proper shipping name	HYPOCHLORITE SOLUTION	HYPOCHLORITE SOLUTION	HYPOCHLORITE SOLUTION	HYPOCHLORITE SOLUTION
14.3 Transport hazard class(es)	8	8	8	8
14.4 Packing group	III	III	III	III
14.5 Environmental hazards	Environmentally hazardous	Marine pollutant	Environmentally hazardous	Environmentally hazardous
14.6 Special precautions for user	See Below	See Below	See Below	See Below

NOTE: THIS PRODUCT IS PACKED IN 5 LITRE BOTTLES IN PACKAGES OF 4 BOTTLES WITH A GROSS MASS WEIGHING LESS THAN 30KG THEREFORE LIMITED QUANTITY RULES APPLY AND SEVERAL PARTS OF ADR DO NOT APPLY

Other relevant information:

ADR

EmS: F-A S-B

Tunnel restriction code: E

IMO/IMDG

The product has been classified, labelled and packaged in accordance with the requirements of ADR and the provisions of the IMDG Code. Transport regulations include special provisions for certain classes of dangerous goods packed in limited quantities.

SECTION 15: Regulatory information

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

*COMMISSION REGULATION (EU) No 453/2010 of 20 May 2010 amending Regulation (EU) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC. REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC. This product SDS has been compiled in relation to EU No: 2015/830 CLP Regulations

CESIO recommendations

The surfactant(s) contained in this preparation complies(comply) with the biodegradability criteria as laid down in Regulation (EC) No.648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them, at their direct request or at the request of a detergent manufacturer.

15.2 Chemical safety assessment

A chemical safety assessment has not been carried out on the mixture

SECTION 16: Other information

16.1. Full text of the H and EUH phrases mentioned in section 3:

EUH031: Contact with acids liberates toxic gas.

H290: May be corrosive to metals

H314: Causes severe skin burns and eye damage.

H400: Very toxic to aquatic life.

16.2. Other information

The information in this document is based on our best present knowledge. However, it does not constitute a guarantee for any specific product features and does not establish a legally binding contract

Amendments marked *

Reason for revision:

*Overall design adjusted in accordance with Commission Regulation (EU) 2015/830

Classification procedure

The classification of the mixture is in general based on calculation methods using substance data, as required by Regulation (EC) No 1272/2008. If for certain classifications data on the mixture is available or for example bridging principles or weight of evidence can be used for classification, this will be indicated in the relevant sections of the Safety Data Sheet. See section 9 for physical chemical properties, section 11 for toxicological information and section 12 for ecological information.

Abbreviations and acronyms:

AISE-The international Association for Soaps, Detergents and Maintenance Products

DNEL-Derived No Effect Limit

EUH-CLP Specific hazard statement

PBT-Persistent, Bioaccumulative and Toxic

PNEC-Predicted No Effect Concentration

REACH number-REACH registration number, without supplier specific part

vPvB-very Persistent and very Bioaccumulative

ATE-Acute Toxicity Estimate

End of Safety Data Sheet