



**SAFETY DATA SHEET
ST228**

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name ST228

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

Identified uses Disinfectant. Biocides for water treatment. Bleaching

1.3. Details of the supplier of the safety data sheet

Supplier ISS Technical Services
Forge Lane
Stoke-on-Trent
ST1 5PZ
Tel: 08444 068842
Fax: 01782 284317
Web: www.uk.issworld.com

1.4. Emergency telephone number

ISS Technical Services: 08444 068842 (Mon- Fri 9.00am - 5.00pm)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical and Chemical Hazards	Not classified.
Human health	EUH031;Skin Corr. 1B - H314
Environment	Aquatic Acute 1 - H400

Classification (1999/45/EEC)

C;R34. N;R50. R31.

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

2.2. Label elements

Contains SODIUM HYPOCHLORITE SOLUTION, (Cl ACTIVE) 15%

Label In Accordance With (EC) No. 1272/2008



Signal Word

Danger

Hazard Statements

H314	Causes severe skin burns and eye damage.
H400	Very toxic to aquatic life.

Precautionary Statements

P501 Dispose of contents/container in accordance with national regulations.

Supplementary Precautionary Statements

P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P260	Do not breathe vapour/spray.
P264	Wash contaminated skin thoroughly after handling.
P301+330+331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+361+353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

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P304+340	IF INHALED: Remove victim to fresh air and keep at rest in a position 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. Immediately call a POISON CENTER or doctor/physician.
P310	Wash contaminated clothing before reuse.
P363	Collect spillage.
P391	Store locked up.
P405	
Supplemental label information	
EUH031	Contact with acids liberates toxic gas.

2.3. Other hazards

This substance is not identified as a PBT substance.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

SODIUM HYDROXIDE	< 1%	
CAS-No.: 1310-73-2	EC No.: 215-185-5	
Classification (EC 1272/2008) Skin Corr. 1A - H314	Classification (67/548/EEC) C;R35	
SODIUM HYPOCHLORITE SOLUTION, (Cl ACTIVE) ...%	10-30%	
CAS-No.: 7681-52-9	EC No.: 231-668-3	Registration Number: 01-2119488154-34-XXXX
Classification (EC 1272/2008) EUH031 Skin Corr. 1B - H314 Aquatic Acute 1 - H400	Classification (67/548/EEC) C;R34 R31 N;R50	

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General information

Take off all contaminated clothing immediately

Inhalation

Remove victim immediately from source of exposure. Move into fresh air and keep at rest. If breathing is irregular or stopped, administer artificial respiration. Call a physician immediately.

Ingestion

Clean mouth with water and drink afterwards plenty of water. Do not give victim anything to drink if he is unconscious. If swallowed - do not induce vomiting - seek medical advice. If a person vomits when lying on his back, place him in the recovery position.

Skin contact

Remove affected person from source of contamination. Immediately wash contaminated skin with soap and large quantities of water while removing contaminated clothing and shoes. Get medical attention if irritation persists after washing.

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.

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

Inhalation

Inhalation may provoke the following symptoms: Cough Headache. Lung oedema Risk of serious damage to the lungs (by aspiration).

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

Treat symptomatically. Later control for pneumonia and lung oedema.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media**Extinguishing media**

This product is not flammable. Use fire-extinguishing media appropriate for surrounding materials. Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture**Hazardous combustion products**

Non-combustible.

Unusual Fire & Explosion Hazards

Corrosive Oxidising material, release of oxygen may support combustion.

Specific hazards

Fire may cause evolution of: Chlorine. Hydrogen chloride gas. Chlorine oxides

5.3. Advice for firefighters**Special Fire Fighting Procedures**

Use water to keep fire exposed containers cool and disperse vapours. Heating will cause a pressure rise - with risk of bursting. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Protective equipment for fire-fighters

Self contained breathing apparatus and full protective clothing must be worn in case of fire.

SECTION 6: ACCIDENTAL RELEASE MEASURES**6.1. Personal precautions, protective equipment and emergency procedures**

Wear protective clothing as described in Section 8 of this safety data sheet. Wear respiratory protection. Keep people away from and upwind of spill/leak. Provide adequate ventilation. Danger of slipping if spilled. Avoid contact with skin and eyes.

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration. If product contaminates rivers and lakes or drains inform respective authorities. If material reaches soil inform authorities responsible for such cases.

6.3. Methods and material for containment and cleaning up

DO NOT TOUCH SPILLED MATERIAL! Absorb in vermiculite, dry sand or earth and place into containers. Keep in suitable, closed containers for disposal.

6.4. Reference to other sections

For personal protection, see section 8. See section 11 for additional information on health hazards.

SECTION 7: HANDLING AND STORAGE**7.1. Precautions for safe handling**

Avoid spilling, skin and eye contact. Avoid inhalation of vapours and spray mists. Provide good ventilation. Use personal protective equipment. Avoid eating, drinking and smoking when using the product. Emergency eye wash facilities and emergency showers should be available in the immediate vicinity.

7.2. Conditions for safe storage, including any incompatibilities

Keep upright. Keep in an area equipped with alkali resistant flooring. Keep in original container. Store in a receptacle equipped with a vent. Store in a cool and well-ventilated place. Store away from: Acids. Ammonium salts.

Storage Class

Corrosive storage.

7.3. Specific end use(s)

The identified uses for this product are detailed in Section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1. Control parameters**

Name	STD	TWA - 8 Hrs		STEL - 15 Min		Notes
SODIUM HYDROXIDE	WEL				2 mg/m ³	
SODIUM HYPOCHLORITE SOLUTION, (Cl ACTIVE) ...%	WEL				2 mg/m ³	

WEL = Workplace Exposure Limit.

Ingredient Comments

Chlorine: Short Term Exposure Limit (STEL) 15 mins : 0.5ppm (1.5 mg/m3)

8.2. Exposure controls**Protective equipment****Process conditions**

Use engineering controls to reduce air contamination to permissible exposure level.

Engineering measures

Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.

Respiratory equipment

If ventilation is insufficient, suitable respiratory protection must be provided.

Hand protection

Wear protective gloves. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material.

Eye protection

Wear tight-fitting goggles or face shield.

Other Protection

Wear appropriate clothing to prevent any possibility of skin contact. Provide eyewash station.

Hygiene measures

DO NOT SMOKE IN WORK AREA! Wash hands at the end of each work shift and before eating, smoking and using the toilet. Promptly remove any clothing that becomes contaminated. Wash promptly if skin becomes contaminated. When using do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**9.1. Information on basic physical and chemical properties**

Appearance	Liquid
Colour	Yellowish green
Odour	Chlorine odour
Solubility	Soluble in water.
Initial boiling point and boiling range (°C)	110°C
Melting point (°C)	-17 C
Relative density	1.2 - 1.3 g/cm3
Vapour density (air=1)	> 1.0
pH-Value, Conc. Solution	13

9.2. Other information

No further information available

SECTION 10: STABILITY AND REACTIVITY**10.1. Reactivity**

This product is a very reactive substance that can react with many inorganic and organic compounds.

10.2. Chemical stability

Stable under normal temperature conditions and recommended use. Decomposes on heating. Decomposes on exposure to light.

10.3. Possibility of hazardous reactions

May develop chlorine if mixed with acidic solutions.

10.4. Conditions to avoid

Avoid excessive heat for prolonged periods of time.

10.5. Incompatible materials**Materials To Avoid**

Acids. Ammonium compounds Acetic anhydride Organic materials. Hydrogen peroxide. Metal salts. Copper. Nickel. Iron.

10.6. Hazardous decomposition products

Contact with acids liberates toxic gas. Hydrogen chloride gas. Chlorine. Chlorine oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects**Inhalation**

Inhalation of spray mists may cause irritation.

Ingestion

Causes burns. May cause severe internal injury.

Skin contact

Causes burns. Corrosive. Prolonged contact causes serious tissue damage.

Eye contact

Causes burns. Contact with concentrated chemical may very rapidly cause severe eye damage, possibly loss of sight.

Toxicological information on ingredients.**SODIUM HYPOCHLORITE SOLUTION, (Cl ACTIVE) ...% (CAS: 7681-52-9)****Acute toxicity:****Acute Toxicity (Oral LD50)**

> 2900 mg/kg Mouse

Causes serious burns with severe pains, vomiting, pains in the stomach, possibly chock and damaged kidneys. The burn may occur even if only small amounts have been swallowed.

Acute Toxicity (Dermal LD50)

> 2000 mg/kg Rabbit

Acute Toxicity (Inhalation LC50)

> 10.5 mg/l (vapours) Rat

Skin Corrosion/Irritation:

Species: Rabbit Causes severe irritation to skin. OECD Test Guideline 404

Result: Corrosive effects

Serious eye damage/irritation:

Species; Rabbit Result: Corrosive Effects Risk of serious damage to eyes

Respiratory or skin sensitisation:

Species: Guinea Pig Not Sensitising.

Aspiration hazard:**General information**

All numerical values for acute toxicity are calculated on the pure substances.

Ingestion

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

Skin contact

Causes severe skin burns

Eye contact

Risk of serious damage to eyes.

Handle in accordance with good industrial hygiene and safety practice

SECTION 12: ECOLOGICAL INFORMATION

Ecological information on ingredients.**SODIUM HYPOCHLORITE SOLUTION, (Cl ACTIVE) ...% (CAS: 7681-52-9)****Ecotoxicity**

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

12.1. ToxicityEcological information on ingredients.SODIUM HYPOCHLORITE SOLUTION, (Cl ACTIVE) ...% (CAS: 7681-52-9)**Acute Toxicity - Fish**

LC50 96 hours 0.22 - 0.62 mg/l Pimephales promelas (Fat-head Minnow)

Acute Toxicity - Aquatic Invertebrates

EC50 96 hours 2.1 mg/l Daphnia magna

Acute Toxicity - Aquatic Plants

EC50 24h - 28 mg/l Freshwater algae

12.2. Persistence and degradabilityEcological information on ingredients.SODIUM HYPOCHLORITE SOLUTION, (Cl ACTIVE) ...% (CAS: 7681-52-9)

No data available The methods for determining biodegradability are not applicable to inorganic substances

12.3. Bioaccumulative potentialEcological information on ingredients.SODIUM HYPOCHLORITE SOLUTION, (Cl ACTIVE) ...% (CAS: 7681-52-9)**Bioaccumulative potential**

Bioaccumulation is not expected

12.4. Mobility in soilEcological information on ingredients.SODIUM HYPOCHLORITE SOLUTION, (Cl ACTIVE) ...% (CAS: 7681-52-9)**Mobility:**

The product is mobile in water environment.

12.5. Results of PBT and vPvB assessmentEcological information on ingredients.SODIUM HYPOCHLORITE SOLUTION, (Cl ACTIVE) ...% (CAS: 7681-52-9)

This product does not contain any PBT or vPvB substances.

12.6. Other adverse effectsEcological information on ingredients.SODIUM HYPOCHLORITE SOLUTION, (Cl ACTIVE) ...% (CAS: 7681-52-9)

All numerical values for ecotoxicity effects are calculated on the pure substances. Do not flush into surface water or sanitary sewer system.

SECTION 13: DISPOSAL CONSIDERATIONS**General information**

Waste is classified as hazardous waste. Disposal to licensed waste disposal site in accordance with the local Waste Disposal Authority.

13.1. Waste treatment methods

Dispose of waste and residues in accordance with local authority requirements.

Waste Class

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**

UN No. (ADR/RID/ADN) 1791

UN No. (IMDG) 1791

UN No. (ICAO) 1791

14.2. UN proper shipping name

Proper Shipping Name HYPOCHLORITE SOLUTION

14.3. Transport hazard class(es)

ADR/RID/ADN Class 8
 ADR/RID/ADN Class Class 8: Corrosive substances.
 ADR Label No. 8
 IMDG Class 8
 ICAO Class/Division 8
 Transport Labels



14.4. Packing group

ADR/RID/ADN Packing group III
 IMDG Packing group III
 ICAO Packing group III

14.5. Environmental hazards

Environmentally Hazardous Substance/Marine Pollutant



14.6. Special precautions for user

EMS F-A, S-B
 Emergency Action Code 2X
 Hazard No. (ADR) 80
 Tunnel Restriction Code (E)

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

SECTION 15: REGULATORY INFORMATION

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

Uk Regulatory References

The Control of Substances Hazardous to Health Regulations 2002 (S.I 2002 No. 2677) with amendments.

Approved Code Of Practice

Safety Data Sheets for Substances and Preparations. Classification and Labelling of Substances and Preparations Dangerous for Supply.

EU Legislation

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 with amendments.

15.2. Chemical Safety Assessment

Currently we do not have any information from our supplier about this.

SECTION 16: OTHER INFORMATION

Revision Date	25/11/2012
Revision	1
Risk Phrases In Full	
R34	Causes burns.
R35	Causes severe burns.
R31	Contact with acids liberates toxic gas.
R50	Very toxic to aquatic organisms.
Hazard Statements In Full	
H314	Causes severe skin burns and eye damage.
EUH031	Contact with acids liberates toxic gas.
H400	Very toxic to aquatic life.

Disclaimer

This data sheet does not constitute a User's Assessment of Workplace Risk as required by HSW Act, COSHH, Management of Health and Safety at Work Regulations, or other Health & Safety legislation. , This 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. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.