ECAS4® Anolyte

Safety Data Sheet (Conforms to Annex II of REACH (Regulation (EC) No 1907/2006) – Regulation (EU) No 2020/878)

SECTION 1 Identification of the substance / mixture and of the company / undertaking

1.1 Product Identifier

Product name	**Ecas4® Anolyte**
Chemical Name	Not Applicable
Synonyms	Active chlorine at neutral pH, generated by electrolysis of a sodium chloride solution
Chemical formula	Not Applicable
Other means of identification	Not Available

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

Relevant identified uses	Drinking water disinfection / Water sanitisation in Healthcare and Food industry facilities

1.3 Details of the supplier of the safety data sheet

Registered company name	**Ecas4 Australia Pty Ltd**
Address	Unit 8, 1 London Road, Mile End South SA 5031
Telephone	+61 8 8122 7166
Fax	+61 8 8152 0321
Website	www.ecas4.com.au
Email	info@ecas4.com.au

1.4 Emergency telephone number

Association / Organisation	Not Available
Emergency telephone numbers	08 8122 7166 (office hours)

SECTION 2 Hazards identification

2.1 Classification of the substance or mixture

Classification according to regulation (EC) No 1272/2008 [CLP] and amendments	Not applicable
Classification	Not applicable

2.2 Label elements

Hazard pictogram(s)	Not Applicable
Signal word	None

Hazard statement(s)
Not applicable.

Precautionary statement(s) – Prevention
Not applicable.

Precautionary statement(s) – Response
Not applicable.

Precautionary statement(s) – Storage

P410	Protect from sunlight.

Precautionary statement(s) – Disposal

P501	Dispose of contents/container in accordance with national regulations

Safety precaution(s)
Keep out of the reach of children.

2.3 Other hazards (not relevant for the classification)
Special danger of slipping by leaking / spilling product.

SECTION 3 Composition / information on ingredients

3.1 Substances
See section below for composition of Mixtures

3.2 Mixtures

Name of substance	1. CAS No. 2. EC No. 3. Index No. 4. REACH Reg. No.	Weight%	Classification according to regulation (EC) No 1272/2008 [CLP] and amendments	Pictograms
Hypochlorous Acid / Sodium Hypochlorite	1. 7790-92-3 / 7681-52-9 2. 232-232-5 / 231-668-3 3. Not available 4. Not available	<0.04	Not Classified	Not applicable
Sodium chloride	1. 7647-14-5 2. 231-598-3 3. Not available 4. 01-2119485491-33	0.5	Not Classified	Not applicable
Water	1. 7732-18-5 2. 231-791-2 3. Not available 4. Not available	99.4	Not Classified	Not applicable

SECTION 4 First aid measures

4.1 Description of first aid measures

Eye Contact	Rinse thoroughly with plenty of water. Remove contact lenses, if present and easy to do. Get medical attention if irritation persists.
Skin Contact	In case of prolonged exposure and discomfort: remove residues with water. Remove contaminated clothing, including shoes, and wash thoroughly the affected skin with water. Consult a physician if irritation persists. Wash contaminated clothing before reuse.
Inhalation	If fumes, aerosols, or combustion products are inhaled remove to fresh air. Other measures are usually unnecessary.
Ingestion	Immediately give a glass of water. First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

4.2 Most important symptoms and effects, both acute and delayed
No data available.

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

SECTION 5 Firefighting measures

5.1 Extinguishing media
There is no restriction on the type of extinguisher which may be used. Use extinguishing agent suitable for type of surrounding fire.

5.2 Special hazards arising from the substrate or mixture
Non-combustible.

5.3 Advice for firefighters
Not applicable.

SECTION 6 Accidental release measures

6.1 Personal precautions, protective equipment, and emergency procedures
Minimise the exposure to the product (see Section 8). In case of accidental contact, dilute with water.

6.2 Environmental precautions
The product is a biodegradable solution, with a limited shelf life, so there are no potential risks to the environment (see Section 12).

6.3 Methods and material for containment and cleaning up
Contain and absorb spill with sand, earth, inert material, or vermiculite. Wipe up.
No special precautions are required for the disposal of the contaminated material. Packaging may be recycled.

6.4 Reference to other sections
Refer additionally to Sections 8 and 13.

SECTION 7 Handling and storage

DO NOT heat the product. NO special precautions required. Provide adequate ventilation.

7.1 Precautions for safe handling

Safe handling	DO NOT use in combination with other products, especially acids.
Fire and explosion protection	See Section 5
Other information	Handle in accordance with good industrial hygiene and safety practice. Store away from incompatible materials and foodstuff containers. Provide adequate ventilation.

7.2 Conditions for safe storage, including any incompatibilities

Suitable container	Keep containers at a temperature between 2 and 30 °C. Protect from frost and from direct sunlight.
Storage incompatibility	Do not store together with acids or easily oxidisable material.

7.3 Specific end use(s)

There are no particular end uses other than the relevant identified uses listed in Section 1 of this safety data sheet.

SECTION 8 Exposure controls / personal protection

Avoid prolonged contact with skin. Use good personal hygiene practices. The accumulation of vapours should be prevented, especially in environments with poor ventilation; mechanical suction may be appropriate in such situations.

8.1 Control parameters

Occupational Exposure Limits (OEL) – Reference is made to the ACGIH values reported for Chlorine: (1)
TLV – TWA (Chlorine): 0,5 ppm / 1,5 mg/m^3 (ACGIH 2012)
TLV – STEL (Chlorine): 1 ppm / 3 mg/m^3 (ACGIH 2012)

8.2 Exposure controls

Under normal conditions of use, there is NO need to apply specific exposure control measures. Provide adequate ventilation in the place of use. In accordance with Regulation (EEC) 793/93 on the evaluation and control of the risks of existing substances, the risk assessment has been carried out on sodium hypochlorite and NO significant risks were identified in the scenarios of professional use developed under the Technical Guideline for human exposure. (2)

Eye and face protection	NO special protection required during normal use of the product; in case of manipulation of large quantities, wear eye protection. DO NOT spray in the eyes.
Skin protection	NO special protection required during normal use of the product; in case of prolonged contact and manipulation of large quantities, wear protective gloves made of latex or rubber.
Respiratory protection	NO special protection required during normal use of the product; provide adequate ventilation.
Environmental exposure controls	NO special precautions are required: at the concentration present in the mixture (≤ 0.04%), the active chlorine degrades very quickly in the environment in the presence of light and/or organic substances.

SECTION 9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	Clear, homogeneous, and transparent liquid (like water) with distinctive odour.

Physical state	Liquid	**Vapour pressure (kPa)**	about 1.75 (at 20 °C)
Odour	Very slight chlorine smell	**Solubility in water**	Completely miscible
Odour threshold	Not Available	**Vapour density (Air = 1)**	Not Available
pH (as supplied)	6.5 ± 0.5	**Decomposition temperature**	55 °C
Melting point / freezing point (°C)	about 0 °C	**Viscosity (cSt)**	about 1 (at 20 °C)
Initial boiling point and boiling range (°C)	about 100 °C	**Relative density (Water = 1)**	1
Flash point (°C)	Not Available	**Taste**	Not Available
Evaporation rate	Not Available	**Explosive properties**	Not explosive; pressurised container: may burst if heated
Flammability	Not Applicable	**Oxidising properties**	Not Available
Upper Explosive Limit (%)	Not Applicable	**Surface Tension (mN/m)**	about 73 (at 20 °C)
Lower Explosive Limit (%)	Not Applicable	**VOC (g/L)**	Not applicable

9.2 Other information

Information with regard to physical hazard classes: Aerosols – Pressurised container: May burst if heated.

Continued...

SECTION 10 Stability and reactivity

Stable under normal ambient conditions of temperature and pressure. If properly stored (preferably at temperatures between 5 and 30 °C), the mixture maintains its optimal (i.e., bactericidal activity) Oxidation-Reduction Potential (ORP) for a period up to 12 months.

10.1 Reactivity	Avoid contact with strong acids, amines, ammonia, ammonium salts, reducing agents and reactive metals (see Section 7).
10.2 Chemical stability	Unstable in the presence of incompatible materials. Product is considered stable. Hazardous polymerisation will not occur. Protect from frost and from sunlight.
10.3 Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur
10.4 Conditions to avoid	DO NOT mix with other products. Avoid contact with acids, amines, ammonia, ammonium salts, reactive metals, and other reducing agents.
10.5 Incompatible materials	Polyamide, low alloy steel, iron and reactive metals.
10.6 Hazardous decomposition products	Chlorine vapours; small amounts of trihalomethanes may be formed in presence of organic substances.

SECTION 11 Toxicological information

11.1 Information on toxicological effects

Inhalation	Not irritant to respiratory epithelium – in vitro [3]
Ingestion	No cytotoxic effects on oral mucosal cell cultures [4]
Skin Contact	Non-irritant when dermatologically tested on volunteers with sensitive skin [5]
Eye Contact	No cytotoxic effects on cornea cells in vitro [6]

Acute toxicity	✘	**Carcinogenicity**	✘
Skin Irritation / Corrosion	✘	**Reproductivity**	✘
Serious Eye Damage / Irritation	✘	**STOT – Single Exposure**	✘
Respiratory or Skin sensitisation	✘	**STOT – Repeated Exposure**	✘
Mutagenicity	✘	**Aspiration Hazard**	✘

Legend: ✘ *Data either not available or does not fill the criteria for classification*
✓ *Data available to make classification*

11.2 Information on other hazards

11.2.1. Endocrine disrupting properties
The product does not contain substances with endocrine disrupting properties.

11.2.2. Other information
Not available.

SECTION 12 Ecological information

12.1 Toxicity

The product's active ingredients can be toxic to certain organisms (e.g., microorganisms); given their low concentration in solution, it is unlikely that mammals or other warm-blooded organisms are affected as a result of an accidental contact with the product. Aquatic organisms, amphibians and reptiles may be more susceptible.

Toxicity to aquatic organisms (short-term effects and long-term effects)

Toxicity to fish	LC_{50} fish = 5.9 mg/L – 96 h
Toxicity to Daphnia Magna	EC_{50} Daphnia > 1 mg/L tested on a mixture containing sodium hypochlorite at 5% [7]
Toxicity to algae	The standard acute toxicity tests of sodium hypochlorite for algae are not considered technically feasible. [8]

12.2 Persistence and degradability

The product degrades slowly, generating a dilute salt solution.

12.3 Bioaccumulative potential

Persistence in atmospheric compartment is considered irrelevant. At environmental pHs (~7.5), 50% of the active chlorine is present as hypochlorous acid, and the remaining 50% is present in the hypochlorite anion form; only the hypochlorous acid portion is volatile. The Henry's constant measured for the hypochlorous acid is equal to 0.0097 Pa m^3 mol^{-1}; it indicates that the concentration in air is very low. Therefore, the atmospheric compartment does not represent a significant exposure route.

Persistence in soil is deemed very low (no bioaccumulation); the partition coefficient of sodium hypochlorite is 0.87 at pH 7.
Active chlorine mixtures are soluble in water; therefore, they may be mobile in the soil. However, the mixture is expected to be readily degraded in contact with the environment.

The **persistence in the aquatic compartment** is poor, given the rapid degradation of the substance; hypochlorites degrade very quickly (about 300 seconds) in the presence of organic matter. [9]
Photo-oxidation, photolysis: hypochlorites are sensitive to light; the half-life of a solution at 10-15% of free chlorine is reduced by 3-4 times by the effect of sunlight.
Degradability: sodium hypochlorite is a completely biodegradable inorganic substance.
Degradation of metabolites: not relevant, sodium hypochlorite is reduced to chloride.

12.4 Mobility in soil
The mixture is readily degraded in contact with the environment.

12.5 Results of PBT and vPvB assessment
Based on the information obtained from bibliographic research on sodium hypochlorite, the substance does not meet the PBT and vPvB criteria: it is not persistent, nor bioaccumulative. (10)

12.6 Endocrine disrupting properties
The product does not contain substances with endocrine disrupting properties.

12.7. Other adverse effects
This product does not contain any ingredient listed in the Annexes to the Montreal Protocol at a concentration ≥ 0.1%.

SECTION 13 Disposal considerations

This product is deemed to be non-hazardous waste and thus it can be disposed according to the local official regulations. Dispose of containers and unused product in accordance with regulations. DO NOT incinerate or puncture aerosol cans. Refer to the Community / National / Local provisions for waste disposal. Empty carefully and completely, if possible. Packaging may be recycled.

13.1 Waste treatment methods
Recommendation: Disposal according to local regulations.

SECTION 14 Transport information

The mixture does not fall within the scope of the transport legislation (NON-DANGEROUS GOODS).
The product is normally produced and consumed locally (on-site) and is classified as non-hazardous.
Use of dark containers is recommended, in order to protect the product from light.

Labels Required

Pictogram	None
Marine Pollutant	No
HAZCHEM	Not Applicable

SECTION 15 Regulatory information

15.1 Safety, health, and environmental regulations / legislation specific for the substance or mixture
The hypochlorous acid contained in the product is an EPA registered biocide: chemical substance with code 129054.

National Inventory Status

National Inventory	Status	National Inventory	Status
Australia – AIIC / Australia Non-Industrial Use	Yes	New Zealand – NZIoC	Yes
Canada – DSL	Yes	Philippines – PICCS	Yes
Canada – NDSL	No (sodium hypochlorite (sodium hypochlorite))	USA – TSCA	Yes
China – IECSC	Yes	Taiwan – TCSI	Yes
Europe – EINECS / ELINCS / NLP	Yes	Mexico – INSQ	Yes
Japan – ENCS	Yes	Vietnam – NCI	Yes
Korea – KECI	Yes	Russia – FBEPH	Yes
Legend:	*Yes = All CAS declared ingredients are on the inventory* *No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.*		

National Inventory Status
Regulation (EC) No 1907/2006 Annex XVII Conditions of restriction: 3

15.2 Chemical safety assessment
A Chemical Safety Assessment has not been carried out.

SECTION 16 Other information

The Ecas4® Anolyte is an alternative, clean and environmentally friendly disinfectant that can be used for the sanitation of water, of hot- and cold-water networks, as well as for cleaning and disinfecting most surfaces, both inside and outside.
The information contained herein is based on data (current state of knowledge and experience) considered accurate at the time of publication and is provided for free.
This document is intended to describe the product only to health and safety requirements. Therefore, it shall not be interpreted as a guarantee of any specific quality for the product; these qualities depend on the conditions of the test or sale contract.
It is the user's responsibility to safely use the product, checking its suitability, and to proceed to a proper disposal.

Continued...

NO DECLARATIONS OR WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, QUALITY, OR OF ANY OTHER NATURE ARE MADE WITH RESPECT TO THIS INFORMATION AND TO THE PRODUCT TO WHICH THIS INFORMATION REFERS.

The information contained in this SDS is in compliance with:

- the Regulations (EC) No. 1907/2006 (REACH), (EC) No. 1272/2008 (CLP) and (EU) No. 2020/878;
- the *Globally Harmonized System of Classification and Labelling of Chemicals* (GHS), Rev. 8 (2019)

Revision 6	04/03/2025
Initial Date	18/08/2021

Other information

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered. Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008: Based on product test data and calculation method.

Definitions and abbreviations

CAS: Chemical Abstract Service (division of the American Chemical Society
CLP: Classification, Labelling and Packaging (of substances and mixtures)
EmS: Emergency Response Procedures for Ships Carrying Dangerous Goods
ERG: Emergency Response Guidebook
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
IMDG: International Maritime Dangerous Goods
PBT: Persistent, Bioaccumulative and Toxic
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
SDS: Safety Data Sheet
STOT: Specific target organ toxicity
UN: United Nations
vPvB: very Persistent and very Bioaccumulative

Bibliographic references

(1) ACGIH 2012, TLVs and BEIs based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents & Biological exposure Indices
(2) European Union Risk Assessment Report, Sodium Hypochlorite, Final report, November 2007
(3) Bio Basic Europe s.r.l., Report No. 2010G27V1-1
(4) Bio Basic Europe s.r.l., Report No. 2017E20V2-1
(5) Bio Basic Europe s.r.l., Report No. 2004E21PC-1
(6) Bio Basic Europe s.r.l., Report No. 2017E20V1-1
(7) OECD Guidelines for the Testing of Chemicals, Test No. 202: Daphnia sp. Acute Immobilisation Test
(8) A.I.S.E., Environmental classification of sodium hypochlorite containing bleach products
(9) Evaluation Report on Sodium Hypochlorite (CAS 7681-52-9) for inclusion of the Active Substance in Annex I to Directive 98/8/EC – Draft March 2010
(10) Eurochlor registration group, Sodium Hypochlorite, Final Assessment 2007

THIS IS THE LAST PAGE OF THIS SDS