ANOGARD

HOSPITAL-GRADE DISINFECTANT

Safety Data Sheet according to WHS Regulations (Hazardous Chemicals) Amendment 2020 and ADG requirements

Issue Date: **20/04/2022**
Revision 02
L.GHS.AUS.EN

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

Product Identifier

Product name	**ANOGARD**
Chemical Name	Not Applicable
Synonyms	Self-dispensing system containing active chlorine at neutral pH, generated by electrolysis of a sodium chloride solution
Proper Shipping Name	AEROSOLS
Other means of identification	Active chlorine released from hypochlorous acid

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

Relevant identified uses	Disinfection of drinking water systems and hard surfaces (clean conditions)

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

Emergency telephone number

Association / Organisation	CHEMCALL
Emergency telephone numbers	Freephone: 1800 CHEMCALL (1800 127 406) (24 Hours / 7 Days)
Other emergency telephone numbers	Not Available

SECTION 2 Hazards identification

Classification of the substance or mixture

Poisons Schedule	Not Applicable
Classification	Aerosols (category 3)

Label elements

Hazard pictogram(s)	Not Applicable
Signal word	**Warning**

Hazard statement(s)

AUH044	Risk of explosion if heated under confinement.
H229	Pressurised container: may burst if heated.

Precautionary statement(s) – Prevention

P102	Keep out of reach of children.
P210	Keep away from heat, hot surface, sparks, open flames and other ignition sources. No smoking
P251	Do not pierce or burn, even after use.

Precautionary statement(s) – Response

Not applicable

Precautionary statement(s) – Storage

P410 + P412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C / 122 °F.

Precautionary statement(s) – Disposal

Not Applicable

Safety precaution(s)
Do not spray in the eyes.
Use biocides safely. Always read the label and product information before use.

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

SECTION 3 Composition / information on ingredients

Substances
See section below for composition of Mixtures

Mixtures

CAS No.	%[weight]	Name
7790-92-3 / 7681-52-9	≤ 0.05	Hypochlorous Acid / Sodium Hypochlorite
Not Available	> 99.9	Ingredients determined not to be hazardous

SECTION 4 First aid measures

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.

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

SECTION 5 Firefighting measures

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

Special hazards arising from the substrate or mixture
Non-combustible. Pressurised container: may burst if heated. Rupturing containers may rocket and scatter burning materials.

Advice for firefighters
Alert Fire Brigade and tell them location and nature of hazard. Heating causes rise in pressure with risk of bursting. Use water delivered as a fine spray to control fire and cool adjacent area. DO NOT approach containers suspected to be hot. Cool fire exposed containers with water spray from a protected location. If safe to do so, remove containers from path of fire.

SECTION 6 Accidental release measures

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

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).

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.

SECTION 7 Handling and storage

DO NOT heat the product. Heating causes rise in pressure with risk of bursting. Provide adequate ventilation.

Precautions for safe handling

Safe handling	Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. DO NOT pierce or burn, even after use. DO NOT spray in the eyes. DO NOT use in combination with other products, especially acids.
Other information	Handle in accordance with good industrial hygiene and safety practice. Store away from incompatible materials and foodstuff containers. Provide adequate ventilation.

Continued...

Conditions for safe storage, including any incompatibilities

Suitable container	Aerosol dispenser. Keep containers at a temperature between 2 and 30 °C. Protect from frost and from sunlight. DO NOT expose to temperatures exceeding 50 °C.
Storage incompatibility	Compressed gases may contain a large amount of kinetic energy over and above that potentially available from the energy of reaction produced by the gas in chemical reaction with other substances. Avoid reaction with oxidisable agents.

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 (since the product is in liquid form and scarcely volatile, the risk of exposure to vapours is in any case minimized).

Control parameters

Safe Work Australia – Occupational Exposure Limits [1]	**California Division of OSHA – Permissible Exposure Limits** [2]
Eight-hour time weighted average (TWA, Chlorine): 1 ppm / 3 mg/m^3	Eight-hour time weighted average (TWA, Chlorine): 0,5 ppm / 1,5 mg/m^3
Short term exposure limit (STEL, Chlorine): – / –	Short term exposure limit (STEL, Chlorine): 1 ppm / 3 mg/m^3

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. [3]

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 (≤ 0.05%), the active chlorine degrades very quickly in the environment in the presence of light and/or organic substances.

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

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

Physical state	Liquid	**Upper Explosive Limit (%)**	Not Applicable
Odour	Very slight chlorine smell	**Lower Explosive Limit (%)**	Not Applicable
Odour threshold	Not Available	**Vapour pressure (kPa)**	about 1.75 (at 20 °C)
pH (as supplied)	6.5 ± 0.5	**Solubility in water**	Completely miscible
Melting point / freezing point (°C)	about 0 °C	**Vapour density (Air = 1)**	Not Available
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

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 18 months.

Reactivity	Avoid contact with strong acids, amines, ammonia, ammonium salts, reducing agents and reactive metals (see section 7).
Chemical stability	Unstable in the presence of incompatible materials. Product is considered stable. Hazardous polymerisation will not occur. Protect from frost and from sunlight.
Possibility of hazardous reactions	Pressurised container: may burst if heated (see section 7).
Conditions to avoid	DO NOT pierce or burn, even after use. DO NOT expose to temperatures exceeding 50 °C / 122 °F. DO NOT mix with other products. Avoid contact with acids, amines, ammonia, ammonium salts, reactive metals and other reducing agents.
Incompatible materials	Polyamide, low alloy steel, iron and reactive metals.
Hazardous decomposition products	Chlorine vapours; small amounts of trihalomethanes may be formed in presence of organic substances.

Continued...

SECTION 11 Toxicological information

Information on toxicological effects

Inhalation	Not irritant to respiratory epithelium – in vitro [4]
Ingestion	No cytotoxic effects on oral mucosal cell cultures [5]
Skin Contact	Non-irritant when dermatologically tested on volunteers with sensitive skin [6]
Eye Contact	No cytotoxic effects on cornea cells in vitro [7]
Chronic	Not applicable

Reason for the failure to classify:

The mixture cannot be classified in a particular hazard class due to the lack of data, the availability of information / data inconclusive or insufficient for classification according to the criteria laid down in the regulations mentioned in this SDS.

SECTION 12 Ecological information

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% [8]
Toxicity to algae	The standard acute toxicity tests of sodium hypochlorite for algae are not considered technically feasible. [9]

Persistence and degradability

The product degrades slowly, generating a dilute salt solution.

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. [10]
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.

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. [11]

SECTION 13 Disposal considerations

No special precautions required. Dilution with water can be taken into account. Where permitted, the solution may be disposed of into the sewer system without negative effects. The oxidising activity of the product can be neutralised by adding a surplus of organic material. 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.

SECTION 14 Transport information

Labels Required

Pictogram	
Marine Pollutant	No
HAZCHEM	Not Applicable

Continued...

Land transport (ADG)

Proper shipping name	AEROSOLS
Hazard Class or Division	2.2
UN-No	UN 1950
Description	AEROSOLS
Packing group	Not applicable
Subsidiary Hazard	Not applicable
Special Provisions	63, 190, 277, 327, 344, 381
Limited Quantities	1000 mL
Excepted Quantities	E0
Packing Instructions	P207, LP200
Special Packing Provisions	PP87, L2
Australia Hazchem Code	2T

Land transport (ADR)

Proper shipping name	AEROSOLS
Hazard Class or Division	2.2
UN-No	UN 1950
Description	AEROSOLS, asphyxiant
Packing group	Not applicable
Classification code	5A
Special Provisions	190, 327, 344, 625
Limited Quantities	1 L
Excepted Quantities	E0
Packing Instructions	P207, LP200
Special Packing Provisions	PP87, RR6, L2
Mixed Packing Provisions	MP9
Tunnel Restriction Code	3 (E)

Air transport (IATA)

UN-No	UN 1950
Proper shipping name	AEROSOLS, NON-FLAMMABLE
Hazard Class	2.2
Hazard Label	Non-flamm. gas
Excepted Quantity Codes	E0
Passenger and Cargo Aircraft Ltd Qty	Pkg Inst Y203, Max Net Qty/Pkg 30 kg G
Passenger and Cargo Aircraft	Pkg Inst 203, Max Net Qty/Pkg 75 kg
Cargo Aircraft Only	Pkg Inst 203, Max Net Qty/Pkg 150 kg
Special Provisions	A98, A145, A167, A802
ERG Code	2L

Sea transport (IMDG)

UN-No	UN 1950
Proper shipping name	AEROSOLS
Class or Division	2.2
Subsidiary risk(s)	-
Packing group	-
Special Provisions	63, 190, 277, 327, 344, 381, 959
Limited Quantities	1000 mL
Excepted Quantities	E0
Packing Instructions	P207, LP200
Special Packing Provisions	PP87, L2
EmS	F-C, S-V
Stowage and Handling	SW1, SW22
Segregation	SG69

SECTION 15 Regulatory information

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

ANOGARD is a registered Hospital-Grade Disinfectant (AUST L 349350), approved to kill Covid-19.

National Inventory Status

National Inventory	Status	National Inventory	Status
Australia – AIIC / Australia Non-Industrial Use	No (hypochlorous acid)	New Zealand – NZIoC	Yes
Canada – DSL	No (hypochlorous acid)	Philippines – PICCS	No (hypochlorous acid)
Canada – NDSL	No (sodium hypochlorite)	USA – TSCA	Yes
China – IECSC	No (hypochlorous acid)	Taiwan – TCSI	Yes
Europe – EINECS / ELINCS / NLP	Yes	Mexico – INSQ	No (hypochlorous acid)
Japan – ENCS	No (hypochlorous acid)	Vietnam – NCI	Yes
Korea – KECI	Yes	Russia – FBEPH	No (hypochlorous acid)
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.*		

Continued...

SECTION 16 Other information

ANOGARD Hospital-Grade Disinfectant 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.

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 EC Regulations No. 1907/2006 (REACH), No. 1272/2008 (CLP) and EU 453/2010 (Annex I);
- the approved Code of Practice, under section 274 of the Work Health and Safety Act (the Australian WHS Act)
- the *Globally Harmonized System of Classification and Labelling of Chemicals* (GHS), Rev. 8 (2019)

Revision 2	20/04/2022
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.

Definitions and abbreviations

ADG: Australian Dangerous Goods
ADR: Agreement concerning the International Carriage of Dangerous Goods by Road
AIIC: Australian Inventory of Industrial Chemicals
CAS: Chemical Abstract Service (division of the American Chemical Society
CLP: Classification, Labelling and Packaging (of substances and mixtures)
DSL: Domestic Substances List
EC_{50}: concentration estimated to immobilise 50% of the Daphnia after 24 hours exposure
EEC: European Economic Community
ELINCS: European List of Notified Chemical Substances
EINECS: European Inventory of Existing Commercial chemical Substances
EmS: Emergency Response Procedures for Ships Carrying Dangerous Goods
ENCS: Existing and New Chemical Substances Inventory
ERG: Emergency Response Guidebook
FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
IECSC: Inventory of Existing Chemical Substance in China
IMDG: International Maritime Dangerous Goods
INSQ: Inventario Nacional de Sustancias Químicas
KECI: Korea Existing Chemicals Inventory
LC_{50}: concentration determining the death of the 50% of individuals in acute toxicity tests for environmental exposure
NCI: National Chemical Inventory
NDSL: Non-Domestic Substances List
NLP: No-Longer Polymers
NZIoC: New Zealand Inventory of Chemicals
OEL: Occupational Exposure Limits
ORP: Oxidation-Reduction Potential
OSHA: Occupational Safety and Health Administration – U.S. Department of Labor
PBT: Persistent, Bioaccumulative and Toxic
PEL-STEL: Permissible Exposure Limit – Short Term Exposure Limit (15 minutes)
PEL-TWA: Permissible Exposure Limit – Time Weight Average, weighted average concentration over time, on a conventional 8-hour workday and a 40-hour working week
PICCS: Philippine Inventory of Chemicals and Chemical Substances
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
SDS: Safety Data Sheet
TCSI: Taiwan Chemical Substance Inventory
TSCA: Toxic Substances Control Act
UN: United Nations
vPvB: very Persistent and very Bioaccumulative
WHS: Work Health and Safety

Bibliographic references

(1) Safe Work Australia, Workplace Exposure Standards for Airborne Contaminants (16 December 2019)
(2) California Division of Occupational Safety and Health Administration (Cal/OSHA) Permissible Exposure Limits (PELs) from Table AC-1 (October 2, 2019), viewable at http://www.dir.ca.gov/title8/5155table_ac1.html.
(3) European Union Risk Assessment Report, Sodium Hypochlorite, Final report, November 2007
(4) Bio Basic Europe s.r.l., Report No. 2010G27V1-1
(5) Bio Basic Europe s.r.l., Report No. 2017E20V2-1
(6) Bio Basic Europe s.r.l., Report No. 2004E21PC-1
(7) Bio Basic Europe s.r.l., Report No. 2017E20V1-1
(8) OECD Guidelines for the Testing of Chemicals, Test No. 202: Daphnia sp. Acute Immobilisation Test
(9) A.I.S.E., Environmental classification of sodium hypochlorite containing bleach products
(10) 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
(11) Eurochlor registration group, Sodium Hypochlorite, Final Assessment 2007

Information relating to health, safety, and environmental protection in accordance with Regulation (EC) No 1272/2008 on hazardous components:

Full text of H-Statements referred to under Section 2: H229 Pressurised container: May burst if heated

THIS IS THE LAST PAGE OF THIS SDS