SAFETY DATA SHEET

INHIBITOR AZ8111

1. Identification

Product identifier **INHIBITOR AZ8111**

Other means of identification None.

Recommended use of the chemical and restrictions on use

Recommended use Corrosion inhibitor

Restrictions on use Not available.

Company/undertaking identification

SUEZ WATER TECHNOLOGIES & SOLUTIONS PTY LIMITED
103 Raubers Road, Northgate, QLD 4013 Australia
Level 6, 63 Albert Street, Auckland, 1010 , New Zealand
Tel: 1800 064 140 (AUS) 0800 945635 (NZ)

Emergency telephone

+61-290372994 (Aust) +64-98010034 (NZ)

2. Hazard(s) identification

Classification of the hazardous chemical

Physical hazards	Corrosive to metals	Category 1
Health hazards	Skin corrosion/irritation	Category 1C
	Serious eye damage/eye irritation	Category 1
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 3
	Hazardous to the aquatic environment, long-term hazard	Category 3

Label elements, including precautionary statements

Hazard symbol(s)

Corrosion

Signal word Danger

Hazard statement(s) May be corrosive to metals. Causes severe skin burns and eye damage. Causes serious eye damage. Harmful to aquatic life. Harmful to aquatic life with long lasting effects.

Precautionary statement(s)

Prevention Keep only in original container. Do not breathe mist or vapor. Wash thoroughly after handling. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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. Wash contaminated clothing before reuse. Absorb spillage to prevent material damage.

Storage Store locked up. Store in corrosive resistant container with a resistant inner liner.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards which do not result in classification None known.

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Supplemental information None.

3. Composition/information on ingredients

Mixtures

Identity of chemical ingredients	CAS number and other unique identifiers	Concentration of ingredients
sodium;4-chloro-5-(4-methylphenyl)-1,2-diaza-3-azanidacyclopenta-1,4-diene	202420-04-0	10 - < 20
DICHLOROTOLYLTRIAZOLE	NOT ASSIGNED	3 - < 7
Sodium 4(or 5)-methyl-1H-benzotriazolide	64665-57-2	1 - < 5
Sodium hydroxide	1310-73-2	1 - < 5

4. First-aid measures

Description of necessary first aid measures

Inhalation Call a physician if symptoms develop or persist.

Skin contact Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Ingestion Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Personal protection for first-aid responders Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

Symptoms caused by exposure Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Medical attention and special treatment Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for fire fighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions Move containers from fire area if you can do so without risk.

Hazchem code None.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Wear appropriate personal protective equipment.

For emergency responders Keep unnecessary personnel away.

Environmental precautions Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

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Methods and materials for containment and cleaning up

Prevent entry into waterways, sewer, basements or confined areas.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

7. Handling and storage

Precautions for safe handling

Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in a cool, dry place out of direct sunlight. Store in tightly closed container. Keep only in the original container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls and personal protection

Control parameters

Follow standard monitoring procedures.

Occupational exposure limits

Australia. National Workplace OELs (Workplace Exposure Standards for Airborne Contaminants, Appendix A)

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	STEL	2 mg/m3

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, for example personal protective equipment (PPE)

Eye/face protection

Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection

Hand protection

Wear appropriate chemical resistant gloves.

Other

Wear appropriate chemical resistant clothing.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

Hygiene measures

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Liquid

Physical state

Liquid.

Form

Liquid.

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Color	Yellow to amber
Odor	Slight
Odor threshold	Not available.
pH (concentrated product)	12.7
Melting point/freezing point	-11 °C
Initial boiling point and boiling range	99 °C
Flash point	Not available.
Evaporation rate	< 1 (Ether = 1)
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	18 mm Hg
Vapor pressure temp.	21 °C
Vapor density	< 1 (Air = 1)
Relative density	1.13
Relative density temperature	21 °C
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	5 cps
Viscosity temperature	21 °C
Other physical and chemical parameters	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
pH in aqueous solution	11.6 (5% SOL.)
Pour point	-8 °C
Shelf life	720 days
Specific gravity	1.13
VOC	0 % (Estimated)

10. Stability and reactivity

Reactivity	May be corrosive to metals.
Chemical stability	Not available.
Possibility of hazardous reactions	Not available.
Conditions to avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Contact with incompatible materials.
Incompatible materials	Strong acids. Strong oxidizing agents. Metals.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on possible routes of exposure

Inhalation	May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
Skin contact	Causes severe skin burns.

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Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns.
Symptoms related to exposure	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Acute toxicity	Not known.

Product	Species	Test Results
INHIBITOR AZ8111		
Acute		
Dermal		
LD50	Rat	> 5000 mg/kg (Calculated according to GHS additivity formula)
Oral		
LD50	Rat	> 5000 mg/kg (Calculated according to GHS additivity formula)

Components	Species	Test Results
DICHLOROTOLYLTRIAZOLE		
Acute		
Dermal		
LD50	Rat	> 5000 mg/kg
Oral		
LD50	Rat	3100 mg/kg
Sodium 4(or 5)-methyl-1H-benzotriazolide (CAS 64665-57-2)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Oral		
LD50	Rat	735 mg/kg
Sodium hydroxide (CAS 1310-73-2)		
Acute		
Dermal		
LD50	Rabbit	1350 mg/kg
Oral		
LD50	Rabbit	> 500 mg/kg
sodium;4-chloro-5-(4-methylphenyl)-1,2-diaza-3-azanidacyclopenta-1,4-diene (CAS 202420-04-0)		
Acute		
Dermal		
LD50	Rat	> 5000 mg/kg
Oral		
LD50	Rat	3100 mg/kg

Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/irritation	Direct contact with eyes may cause temporary irritation.
Respiratory or skin sensitization	
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Not available.
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.

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Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard. Based on available data, the classification criteria are not met.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Product			Species	Test Results
INHIBITOR AZ8111				
		LC50	Annelida(Lumbriculus variegatus)	138 mg/L, 96 hour
			Benthic Crustacean(Gammerus pseutolimnaeus)	42.1 mg/L, 96 hour
			Freshwater Snail(Physa sp.)	47.4 mg/L, 96 hour
			Midge larvae (Chironomus tentans)	95.8 mg/L, 96 hour
		NOEL	Annelida(Lumbriculus variegatus)	62.5 mg/L, 96 hour
			Benthic Crustacean(Gammerus pseutolimnaeus)	25 mg/L, 96 hour
			Freshwater Snail(Physa sp.)	25 mg/L, 96 hour
			Midge larvae (Chironomus tentans)	62.5 mg/L, 96 hour
	Other	EC50	Pseudokirchnerella subcapitata	132 mg/l, 96 Hours
	Aquatic			
	Crustacea	EC0	Daphnia magna	155 mg/L, 48 hour (pH adjusted)
		EC50	Daphnia magna	210 mg/L, 48 hour (pH adjusted)
				50 mg/L, 21 day (pH adjusted)
		LC50	Ceriodaphnia	124 mg/L, 48 hour
			Daphnia magna	217 mg/L, 48 hour (pH adjusted)
			Mysid Shrimp	53 mg/L, 48 hour (pH adjusted)
		LOEL	Ceriodaphnia	40 mg/L, 7 day
		NOEL	Ceriodaphnia	75 mg/L, 48 hour
				20 mg/L, 7 day
			Daphnia magna	148 mg/L, 48 hour (pH adjusted)
				27 mg/L, 21 day (pH adjusted)
			Mysid Shrimp	25 mg/L, 48 hour (pH adjusted)
	Fish	LC50	Bluegill Sunfish	36.6 mg/L, 96 hour
			Fathead Minnow	135 mg/L, 96 hour (pH adjusted)
				50.7 mg/L, 96 hour (pH adjusted)
			Menidia beryllina (Silversides)	41 mg/L, 96 hour
			Rainbow Trout	15.4 mg/L, 96 hour
			Sheepshead Minnow	132 mg/L, 96 hour (pH adjusted)
		LOEL	Fathead Minnow	8.3 mg/L, 28 day (pH adjusted)
		NOEL	Bluegill Sunfish	25 mg/L, 96 hour
			Fathead Minnow	21.8 mg/L, 96 hour (pH adjusted)
				15 mg/L, 96 hour (pH adjusted)
				4.2 mg/L, 28 day (pH adjusted)

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Product	Species	Test Results
	Menidia beryllina (Silversides)	25 mg/L, 96 hour
	Rainbow Trout	6.3 mg/L, 96 hour
	Sheepshead Minnow	100 mg/L, 96 hour (pH adjusted)

Persistence and degradability No data is available on the degradability of any ingredients in the mixture.

No data is available on the degradability of any ingredients in the mixture.

- **COD (mgO2/g)** 300
- **BOD 5 (mgO2/g)** 15
- **BOD 28 (mgO2/g)** 15
- **Closed Bottle Test (% Degradation in 28 days)** 6
- **Zahn-Wellens Test (% Degradation in 28 days)** 0
- **TOC (mg C/g)** 100

Bioaccumulative potential No data available.

Mobility in soil No data available for this product.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal methods Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Residual waste Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

ADG

- **UN number** 1760
- **UN proper shipping name** CORROSIVE LIQUID, N.O.S. (Sodium hydroxide, HALOGENATED AROMATIC HETEROCYCLE)
- **Transport hazard class(es)**
  - **Class** 8
  - **Subsidiary risk** -
- **Packing group** II
- **Environmental hazards** Not available.
- **Hazchem code** 2X
- **Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.

IATA

- **UN number** 1760
- **UN proper shipping name** Corrosive liquid, n.o.s. (SODIUM HYDROXIDE, HALOGENATED AROMATIC HETEROCYCLE)
- **Transport hazard class(es)**
  - **Class** 8
  - **Subsidiary risk** -
- **Packing group** II
- **Environmental hazards** No.
- **ERG Code** 154
- **Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.

IMDG

- **UN number** 1760
- **UN proper shipping name** CORROSIVE LIQUID, N.O.S. (SODIUM HYDROXIDE, HALOGENATED AROMATIC HETEROCYCLE)

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INHIBITOR AZ8111

Transport hazard class(es)

Class	8
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	No.
EmS	F-A, S-B
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not established.

ADG

IATA; IMDG

15. Regulatory information

Safety, health and environmental regulations

National regulations

This Safety Data Sheet was prepared in accordance with Australia Model Code of Practice for the preparation of Safety Data Sheets for Hazardous Chemicals (May 2018).

Group Standard - Corrosion Inhibitors - Corrosive HSR002547

Australia Medicines & Poisons Appendix A

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix B

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix D

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix E

Sodium hydroxide (CAS 1310-73-2)

Australia Medicines & Poisons Appendix F

Sodium hydroxide (CAS 1310-73-2)

Australia Medicines & Poisons Appendix G

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix H

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix I

Poisons schedule number not allocated.

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INHIBITOR AZ8111

Australia Medicines & Poisons Appendix J

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix K

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 10

Sodium hydroxide (CAS 1310-73-2)

Australia Medicines & Poisons Schedule 2

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 3

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 4

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 5

Sodium hydroxide (CAS 1310-73-2)

Australia Medicines & Poisons Schedule 6

Sodium hydroxide (CAS 1310-73-2)

Australia Medicines & Poisons Schedule 7

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 8

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 9

Poisons schedule number not allocated.

High Volume Industrial Chemicals (HVIC)

Sodium hydroxide (CAS 1310-73-2) > 1000000 TONNES See the regulation for additional information.

Importation of Ozone Depleting Substances (Customs(Prohibited imports) Regulations 1956, Schedule 10)

Not listed.

National Pollutant Inventory (NPI) substance reporting list

Not listed.

Prohibited Carcinogenic Substances

Not regulated.

Prohibited Substances (National Model Regulation for the control of Workplace Hazardous Substances, Schedule 2 NOHSC:1005 (1994) as amended)

Not listed.

Resricted Importation of Organochlorine Chemicals (Customs(Prohibited Imports) Regulations 1956, Schedule 9)

Not listed.

Restricted Carcinogenic Substances

Not regulated.

International regulations

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto protocol

Not applicable.

Montreal Protocol

Not applicable.

Basel Convention

Not applicable.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes

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Country(s) or region	Inventory name	On inventory (yes/no)*
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information

Issue date 27-October-2021

Revision date 27/10/2021

References: No data available

Disclaimer The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The 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, unless specified in the text.

Revision information Product and Company Identification: Alternate Trade Names
Composition / Information on Ingredients: Disclosure Overrides
Physical & Chemical Properties: Multiple Properties
Transport Information: Material Transportation Information