SAFETY DATA SHEET

INHIBITOR AZ8104

1. Identification

Product identifier **INHIBITOR AZ8104**

Other means of identification None.

Recommended use of the chemical and restrictions on use

Recommended use Water-based 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 1
	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.

SAFETY DATA SHEET

INHIBITOR AZ8104

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Identity of chemical ingredients	CAS number and other unique identifiers	Concentration of ingredients
Chlorotolyltriazole sodium salt	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 Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

For emergency responders Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.

SAFETY DATA SHEET

INHIBITOR AZ8104

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.

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.

SAFETY DATA SHEET

INHIBITOR AZ8104

Form	Liquid.
Color	Yellow to amber
Odor	Slight
Odor threshold	Not available.
pH (concentrated product)	12.7
pH in aqueous solution	11.6 (5% SOL.)
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	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
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
Specific gravity	1.132
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.

SAFETY DATA SHEET

INHIBITOR AZ8104

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.
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 AZ8104 (CAS Mixture)		
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
Chlorotolyltriazole sodium salt (CAS 202420-04-0)		
Acute		
Dermal		
LD50	Rat	> 5000 mg/kg
Oral		
LD50	Rat	3100 mg/kg
DICHLOROTOLYLTRIAZOLE (CAS NOT ASSIGNED)		
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

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. This product is not expected to cause respiratory sensitization.
Skin sensitization	This product is not expected to cause skin sensitization.

SAFETY DATA SHEET

INHIBITOR AZ8104

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.
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 AZ8104 (CAS Mixture)			
	LC50	Annelida(Lumbriculus variegatus)	138 mg/L, Static Acute Bioassay, 96 hour
		Benthic Crustacean(Gammerus pseutolimnaeus)	42.1 mg/L, Static Acute Bioassay, 96 hour
		Freshwater Snail(Physa sp.)	47.4 mg/L, Static Acute Bioassay, 96 hour
		Midge larvae (Chironomus tentans)	95.8 mg/L, Static Acute Bioassay, 96 hour
	NOEL	Annelida(Lumbriculus variegatus)	62.5 mg/L, Static Acute Bioassay, 96 hour
		Benthic Crustacean(Gammerus pseutolimnaeus)	25 mg/L, Static Acute Bioassay, 96 hour
		Freshwater Snail(Physa sp.)	25 mg/L, Static Acute Bioassay, 96 hour
		Midge larvae (Chironomus tentans)	62.5 mg/L, Static Acute Bioassay, 96 hour
Other	EC50	Pseudokirchnerella subcapitata	132 mg/l, 96 Hours
Aquatic			
Crustacea	EC0	Daphnia magna	155 mg/L, Static Acute Bioassay, 48 hour, (pH adjusted)
	EC50	Daphnia magna	210 mg/L, Static Acute Bioassay, 48 hour, (pH adjusted)
			50 mg/L, Chronic Bioassay, 21 day, (pH adjusted)
	LC50	Ceriodaphnia	124 mg/L, Static Renewal Bioassay, 48 hour
		Daphnia magna	217 mg/L, Static Renewal Bioassay, 48 hour, (pH adjusted)
		Mysid Shrimp	53 mg/L, Static Acute Bioassay, 48 hour, (pH adjusted)
	LOEL	Ceriodaphnia	40 mg/L, Chronic Bioassay, 7 day
	NOEL	Ceriodaphnia	75 mg/L, Static Renewal Bioassay, 48 hour
			20 mg/L, Chronic Bioassay, 7 day
		Daphnia magna	148 mg/L, Static Renewal Bioassay, 48 hour, (pH adjusted)
			27 mg/L, Chronic Bioassay, 21 day, (pH adjusted)

SAFETY DATA SHEET

INHIBITOR AZ8104

Product		Species	Test Results
		Mysid Shrimp	25 mg/L, Static Acute Bioassay, 48 hour, (pH adjusted)
Fish	LC50	Bluegill Sunfish	36.6 mg/L, Static Acute Bioassay, 96 hour
		Fathead Minnow	135 mg/L, Static Acute Bioassay, 96 hour, (pH adjusted)
			50.7 mg/L, Static Renewal Bioassay, 96 hour, (pH adjusted)
		Menidia beryllina (Silversides)	41 mg/L, Static Acute Bioassay, 96 hour
		Rainbow Trout	15.4 mg/L, Static Renewal Bioassay, 96 hour
		Sheepshead Minnow	132 mg/L, Static Acute Bioassay, 96 hour, (pH adjusted)
	LOEL	Fathead Minnow	8.3 mg/L, Chronic Flow-Thru Bioassay, 28 day, (pH adjusted)
	NOEL	Bluegill Sunfish	25 mg/L, Static Acute Bioassay, 96 hour
		Fathead Minnow	21.8 mg/L, Static Renewal Bioassay, 96 hour, (pH adjusted)
			15 mg/L, Static Acute Bioassay, 96 hour, (pH adjusted)
			4.2 mg/L, Chronic Flow-Thru Bioassay, 28 day, (pH adjusted)
		Menidia beryllina (Silversides)	25 mg/L, Static Acute Bioassay, 96 hour
		Rainbow Trout	6.3 mg/L, Static Renewal Bioassay, 96 hour
		Sheepshead Minnow	100 mg/L, Static Acute Bioassay, 96 hour, (pH adjusted)

Components		Species	Test Results
Chlorotolyltriazole sodium salt (CAS 202420-04-0)			
Aquatic			
Algae	EbC50	Algae	6.84 mg/l
	ErC50	Algae	18.6 mg/l

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.

Environmental fate Harmful to aquatic life with long lasting effects. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Persistence and degradability

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

SAFETY DATA SHEET

INHIBITOR AZ8104

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	III
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)
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

SAFETY DATA SHEET

INHIBITOR AZ8104

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.
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.

SAFETY DATA SHEET

INHIBITOR AZ8104

High Volume Industrial Chemicals (HVIC)

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

Importation of Ozone Deleting 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 Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
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).

NSF Registered and/or meets USDA (according to 1998 guidelines):

Registration No. – 141530
Category Code(s):
G5 Cooling and retort water treatment products
G7 Boiler, steam line treatment products – nonfood contact

16. Other information

Issue date 07-February-2021

Revision date 07/02/2021

References: No data available

SAFETY DATA SHEET

INHIBITOR AZ8104

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: Product and Company Identification Composition / Information on Ingredients: Additional Components Physical & Chemical Properties: Multiple Properties Ecological Information: Ecotoxicity Transport Information: Material Transportation Information Material Attributes & Uses; Experimental Data: Experimental Data HazReg Data: Pacific Rim GHS: Classification REACH: Registration Substance