

SAFETY DATA SHEET

SPECTRUS NX1102

1. Identification

Product identifier	SPECTRUS NX1102
Other means of identification	None.
Recommended use of the chemical and restrictions on use	
Recommended use	Solvent-based microbial control agent.
Restrictions on use	Industrial usage.

Company/undertaking identification

VEOLIA WATER TECHNOLOGIES & SOLUTIONS
AUSTRALIA PTY LTD
103 Raubers Road, Northgate, QLD 4013 Australia
C/o Buddle Findlay, Level 18, Hsbc Tower, 188 Quay
Street, Auckland, 1010, New Zealand
Tel: 1800 064 140 (AUS) 0800 945635 (NZ)
Email: vtc.vwts.apacproductregulatory.all@veolia.com

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	Acute toxicity, oral	Category 4
	Acute toxicity, inhalation	Category 4
	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
	Sensitization, skin	Category 1
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 2

Label elements, including precautionary statements

Hazard symbol(s)



Corrosion Exclamation mark

Signal word

Danger

Hazard statement(s)

May be corrosive to metals. Harmful if swallowed. Causes serious eye damage. Harmful if inhaled. Toxic to aquatic life. Causes severe skin burns and eye damage. May cause an allergic skin reaction.

Precautionary statement(s)

Prevention

Keep only in original container. Do not breathe mist/vapors. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

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Response	Rinse mouth. 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. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse. Absorb spillage to prevent material damage.
Storage	Store in a well-ventilated place. Keep container tightly closed. 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.
Supplemental information	None.
Other hazards which do not result in classification	None known.

3. Composition/information on ingredients

Mixtures

Identity of chemical ingredients	CAS number and other unique identifiers	Concentration of ingredients
2,2-dibromo-3-nitrilopropionamide	10222-01-2	10- <30

4. First-aid measures

Description of necessary first aid measures

Inhalation	Move to fresh air. Oxygen or artificial respiration if needed. Call a poison center or doctor/physician if you feel unwell.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. 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. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.
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. May cause respiratory irritation. Rash. Dermatitis.
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 warm. Keep victim under observation. Symptoms may be delayed.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	Foam. Powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical Oxides of carbon and nitrogen evolved in fire. Hydrogen bromide.

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.

General fire hazards Irritant to skin and eyes Non flammable liquid

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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 Do not breathe mist/vapors. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

For emergency responders Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Local authorities should be advised if significant spillages cannot be contained. Ensure adequate ventilation. Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS. Local authorities should be advised if significant spillages cannot be contained. Avoid breathing mist/vapors.

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 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. Contain and absorb on absorbent material (e.g. sand). Place in waste disposal container. Flush area with water. Spread sand/grit. Neutralise with soda ash. Water contaminated with this product may be sent to a sanitary sewer treatment facility, or a permitted waste treatment facility, in accordance with any local agreements. Prevent entry into waterways, sewer, basements or confined areas.

7. Handling and storage

Precautions for safe handling Do not breathe mist/vapors. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. When using, do not eat, drink or smoke. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices. Do not mix with alkaline material.

Conditions for safe storage, including any incompatibilities Store locked up. Store in a cool, dry place out of direct sunlight. Store in corrosive resistant container with a resistant inner liner. Store in tightly closed container. Keep only in the original container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS). Keep containers closed when not in use. Minimise exposure to light. Keep away from heat. Store upright in original vented container.

8. Exposure controls and personal protection

Control parameters Follow standard monitoring procedures.

Occupational exposure limits No exposure limits noted for ingredient(s).

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

Exposure guidelines No exposure standards allocated.

Appropriate engineering controls Good general ventilation 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. Face shield is recommended.

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Other Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

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Hygiene measures Keep away from food and drink. 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. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance	Liquid
Physical state	Liquid.
Form	Liquid.
Color	Yellow to amber
Odor	Slight
Odor threshold	Not available.
pH (concentrated product)	1.9 Neat
Melting point/freezing point	-18 °C
Initial boiling point and boiling range	Not available.
Flash point	> 93 °C P-M(CC)
Evaporation rate	Slower than Ether
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	< 0.1 mmHg
Vapor pressure temp.	21 °C
Vapor density	> 1
Relative density	1.27
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	64 mPa.s
Viscosity temperature	21 °C
Other physical and chemical parameters	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
pH in aqueous solution	3.3 (5% Solution)
Pour point	-15 °C
VOC	0 % CALCULATED

10. Stability and reactivity

Reactivity	May be corrosive to metals.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Metals. Avoid contact with strong oxidizers. Avoid contact with strong bases. Contact with strong bases may cause a violent reaction releasing heat.

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Hazardous decomposition products No hazardous decomposition products are known.

11. Toxicological information

Information on possible routes of exposure

Inhalation Harmful if inhaled.
Skin contact Causes severe skin burns. May cause an allergic skin reaction.
Eye contact Causes serious eye damage.
Ingestion Causes digestive tract burns. Harmful if swallowed.

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 Harmful if inhaled. Harmful if swallowed.

Product	Species	Test Results
SPECTRUS NX1102		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg (Calculated according to GHS additivity formula)
Inhalation		
LC50	Rat	1.3 mg/l, 4 hours (Calculated according to GHS additivity formula)
Oral		
LD50	Rat	510 mg/kg (Calculated according to GHS additivity formula)
Components	Species	Test Results

2,2-dibromo-3-nitrilopropionamide (CAS 10222-01-2)

Acute

Dermal

LD50 Rabbit > 2000 mg/kg

Inhalation

Mist

LC50 Rat 0.24 mg/l, 4 Hour

Oral

LD50 Rat 118 mg/kg

Skin corrosion/irritation Causes severe skin burns and eye damage.

Serious eye damage/irritation Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization May cause an allergic skin reaction.

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 available.

Specific target organ toxicity - repeated exposure Not available.

Aspiration hazard Not an aspiration hazard.

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12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Product		Species	Test Results	
Aquatic	Algae	ErC50	Algae	1.5 mg/L, 72 hours
	Crustacea	EC50	Daphnia magna	0.65 mg/L, 21 days (Reproduction EC50)
		LC50	Daphnia magna	3.3 mg/L, 48 hours
			Mysid Shrimp	1.3 mg/L, 21 days
		LOEC	Daphnia magna	0.72 mg/L, 48 hours (Data given as toxicity of active component.)
		NOEL	Daphnia magna	0.6 mg/L, 21 days (Reproduction LOEC)
				2.15 mg/L, 48 hours
				0.35 mg/L, 21 days (Reproduction NOEL)
	Fish	LC50	Bluegill Sunfish	6.5 mg/L, 96 hours
			Fathead Minnow	8.7 mg/L, 96 hours
		Rainbow Trout	2.3 mg/L, 96 hours	
		Sheepshead Minnow	7 mg/L, 96 hours	
NOEL		Fathead Minnow	3.1 mg/L, 96 hours	
		Rainbow Trout	1.8 mg/L, 96 hours	
Other	LC50	Marine Copepod (Acartia tonsa or other)	1.78 mg/L, 48 hours	

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) 959
- BOD 5 (mgO₂/g) 0 (calculated data)
- BOD 28 (mgO₂/g) 0 (calculated data)
- Closed Bottle Test (% Degradation in 28 days) 0
- Zahn-Wellens Test (% Degradation in 28 days) 0
- TOC (mg C/g) 732
- CO₂ evolution (modified Sturm test) 78

Bioaccumulative potential

Partition coefficient n-octanol / water (log K_{ow})

2,2-dibromo-3-nitropropionamide 0.79

Bioconcentration factor (BCF)

2,2-dibromo-3-nitropropionamide 13
Species: Fish

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.

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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	Dispose of in accordance with local regulations. 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	3265
UN proper shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (DBNPA (2,2-DIBROMO-3-NITRILOPROPIONAMIDE))
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	III
Environmental hazards	No
Hazchem code	2X
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
IATA	
UN number	3265
UN proper shipping name	Corrosive liquid, acidic, organic, n.o.s. (DBNPA (2,2-DIBROMO-3-NITRILOPROPIONAMIDE))
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	III
Environmental hazards	No.
ERG Code	153
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
IMDG	
UN number	3265
UN proper shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (DBNPA (2,2-DIBROMO-3-NITRILOPROPIONAMIDE))
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	III
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.

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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. Group Standard - Water Treatment Chemicals (Corrosive) - HSR002681

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

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix F

Poisons schedule number not allocated.

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

Poisons schedule number not allocated.

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.

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Australia Medicines & Poisons Schedule 5

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 6

Poisons schedule number not allocated.

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)

Not listed.

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

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.

Restricted 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)	No
Canada	Non-Domestic Substances List (NDSL)	Yes
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)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes

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Country(s) or region	Inventory name	On inventory (yes/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. – 140725 Category Code(s): G7 Boiler, steam line treatment products – nonfood contact
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16. Other information

Issue date	09-December-2020
Revision date	11/02/2023
Key abbreviations or acronyms used	AICIS: Australian Inventory of Industrial Chemicals.

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 Hazard(s) identification: Storage
 Hazard(s) identification: Other hazards which do not result in classification
 Regulatory information: National regulations
 Other information: Bibliography
 Other information: Disclaimer
 GHS: Classification

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