

SAFETY DATA SHEET

SPECTRUS NX1100

1. Identification

Product identifier SPECTRUS NX1100

Other means of identification None.

Recommended use of the chemical and restrictions on use

Recommended use Biocide

Recommended restrictions None known.

Company/undertaking identification

SUEZ WATER TECHNOLOGIES AND SOLUTIONS
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2. Hazards identification

Physical hazards

Corrosive to metals

Category 1

Health hazards

Acute toxicity (oral)

Category 4

Acute toxicity (inhalation)

Category 4

Skin corrosion or irritation

Category 1

Serious eye damage or eye irritation

Category 1

Skin sensitization

Category 1

Specific target organ toxicity - single exposure

Category 3 respiratory tract irritation

Environmental hazards

Hazardous to the aquatic environment - chronic hazard

Category 2

Label elements



Signal word

Danger

Hazard statement

H290

May be corrosive to metals.

H302

Harmful if swallowed.

H314

Causes severe skin burns and eye damage.

H317

May cause an allergic skin reaction.

H318

Causes serious eye damage.

H332

Harmful if inhaled.

H335

May cause respiratory irritation.

H411

Toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention

P234

Keep only in original packaging.

P260

Do not breathe mist/vapors.

P264

Wash thoroughly after handling.

P270

Do not eat, drink or smoke when using this product.

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P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response

P330 Rinse mouth.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P390 Absorb spillage to prevent material-damage.
P391 Collect spillage.

Storage

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P406 Store in corrosive resistant/ container with a resistant inner liner.

Disposal

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards which do not result in classification

None known.

Supplemental information

86.3% of the mixture consists of component(s) of unknown acute oral toxicity. 85.3177% of the mixture consists of component(s) of unknown acute dermal toxicity. 90.9% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

3. Composition/information on ingredients

Mixtures

Hazardous components

Chemical name	Common name and synonyms	CAS number	%
2-Bromo-2-nitropropane-1,3-diol (Bronopol)		52-51-7	5 - < 10
Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-4-isothiazolin-3-one [EC no. 220-239-6] (3:1)		55965-84-9	1 - < 3

Non-hazardous components

Chemical name	Common name and synonyms	CAS number	%
Magnesium nitrate		10377-60-3	3 - < 5
Magnesium chloride		7786-30-3	1 - < 3

4. First-aid measures

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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.

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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.
Most important symptoms/effects, acute and delayed	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.
Indication of immediate medical attention and special treatment needed	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. The dilution with water or milk is appropriate if there has been no vomiting (120 to 240 ml for adults, do not exceed 120 ml for children). If swallowed, assess endoscopy results. Contraindication: neutralization and activated Carbon. Symptomatic treatment.
General information	If you feel unwell, seek medical advice (show the label where possible). 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.
5. Fire-fighting measures	
Suitable extinguishing media	Water fog. Foam. Dry chemical 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	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	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.
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	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/vapors. 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.
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.
Environmental precautions	Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. 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.
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.
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).

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8. Exposure controls/personal protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Eye wash facilities and emergency shower must be available when handling this product.
Individual protection measures, such as personal protective equipment	
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.
General hygiene considerations	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	Colorless to yellow green
Odor	None
Odor threshold	Not available.
pH (concentrated product)	3
Melting point/freezing point	-4 °C
Initial boiling point and boiling range	104 °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	1.11
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	10 cps
Viscosity temperature	21 °C

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Other information

Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
pH in aqueous solution	3.7 (5% SOL.)
Pour point	-2 °C
Shelf life	360 days
Specific gravity	1.11
VOC	0 %

10. Stability and reactivity

Reactivity	May be corrosive to metals.
Chemical stability	Not available.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Metals.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system.
Skin contact	Causes severe skin burns. May cause an allergic skin reaction.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Causes digestive tract burns. Harmful if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics	Causes serious eye damage. May cause respiratory irritation. May cause an allergic skin reaction. Dermatitis. Rash.

Information on toxicological effects

Acute toxicity	Harmful if swallowed.
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Product	Species	Test Results
SPECTRUS NX1100		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
LC50	Rat	> 1 mg/l, 4 Hour
Oral		
LD50	Rat	1030 mg/kg
Components	Species	Test Results

2-Bromo-2-nitropropane-1,3-diol (Bronopol) (CAS 52-51-7)

Acute		
Dermal		
LD50	Rat	> 2000 mg/kg
Inhalation		
LC50	Rat	> 0.59 mg/l, 4 Hour (Aerosol toxicity)
Oral		
LD50	Rat	193 mg/kg

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Components	Species	Test Results
Magnesium chloride (CAS 7786-30-3)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Oral		
LD50	Rat	> 5000 mg/kg
Magnesium nitrate (CAS 10377-60-3)		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg
Oral		
LD50	Rat	5400 mg/kg
Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-4-isothiazolin-3-one [EC no. 220-239-6] (3:1) (CAS 55965-84-9)		
Acute		
Dermal		
LD50	Rabbit	90 mg/kg
Inhalation		
LC50	Rat	0.33 mg/l, 4 Hour
Oral		
LD50	Rat	67 mg/kg
Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.	
Serious eye damage/eye 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	Risk of cancer cannot be excluded with prolonged exposure.	
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.	
Chronic effects	Prolonged exposure may cause chronic effects.	

12. Ecological information

Ecotoxicity Toxic to aquatic life with long lasting effects.

Product	Species	Test Results
SPECTRUS NX1100		
Aquatic		
Crustacea	LC50	Ceriodaphnia
		Daphnia magna
		Mysid Shrimp
NOEL		Ceriodaphnia
		Daphnia magna

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Product	Species	Test Results
Fish	LC50	Mysid Shrimp
		18 mg/l, 48 hour
		Fathead Minnow
		3.5 mg/l, 96 hour
		Menidia beryllina (Silversides)
		15.9 mg/l, 96 hour
		Rainbow Trout
		7.2 mg/l, 96 hour
		Sheepshead Minnow
		26.7 mg/l, 96 hour
	NOEL	Fathead Minnow
		1.8 mg/l, 96 hour
		Menidia beryllina (Silversides)
		12.5 mg/l, 96 hour
		Rainbow Trout
		3.1 mg/l, 96 hour
		Sheepshead Minnow
		15.5 mg/l, 96 hour

Components	Species	Test Results
2-Bromo-2-nitropropane-1,3-diol (Bronopol) (CAS 52-51-7)		
Aquatic	EC50	Daphnia Magna
		1.4 mg/l, 48 hour
Fish	LC50	Rainbow Trout
		41 mg/l, 96 hour

Persistence and degradability No data is available on the degradability of this product.

- COD (mgO₂/g) 77
- BOD 5 (mgO₂/g) 2 (calculated data)
- BOD 28 (mgO₂/g) 4 (calculated data)
- Closed Bottle Test (% Degradation in 28 days) 2 (calculated data)
- Zahn-Wellens Test (% Degradation in 28 days) 8 (calculated data)
- TOC (mg C/g) 29 (calculated data)

Bioaccumulative potential Not bioaccumulating (Refers to active component) 2-Bromo-2-nitropropane-1,3-diol

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

2-Bromo-2-nitropropane-1,3-diol (Bronopol) -0.64
Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 0.49
247-500-7] and 2-methyl-4-isothiazolin-3-one [EC no.
220-239-6] (3:1)

Mobility in soil No data available.

Other adverse effects Nutrients: N = 8.03 mg/g

13. Disposal considerations

Disposal instructions	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.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Waste from residues / unused products	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

IATA

Basic shipping requirements:

UN number UN3265
Proper shipping name CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Mixture of:
5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-4-isothiazolin-3-one [EC
no. 220-239-6] (3:1), 2-Bromo-2-nitropropane-1,3-diol (Bronopol))
Hazard class 8

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Packing group II
Special transport precautions and conditions Read safety instructions, SDS and emergency procedures before handling.

IMDG

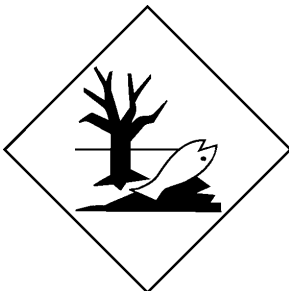
Basic shipping requirements:
UN number UN3265
Proper shipping name CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-4-isothiazolin-3-one [EC no. 220-239-6] (3:1); 2-Bromo-2-nitropropane-1,3-diol (Bronopol)), MARINE POLLUTANT
Hazard class 8
Packing group II
Marine pollutant Yes
Special transport precautions and conditions Read safety instructions, SDS and emergency procedures before handling.

SEA (Annex II of MARPOL 73/78 and the IBC Code) Not established.

IATA; IMDG



Marine pollutant



General information IMDG Regulated Marine Pollutant.

15. Regulatory information

Safety, health and environmental regulations specific for the product in question

Controlled Narcotic & Psychotropic Precursors List

Not regulated

CWC (Chemical Weapons Convention Act 2000, Schedules 1-3)

Not regulated

Hazardous Chemicals, Schedule 2: Threshold Quantities at an Isolated Storage (Manufacture, Storage and Import of Hazardous Chemical Rules 1989, as amended).

Not regulated

Hazardous Chemicals, Schedule 3: Threshold Quantities in an Industrial Installation (Manufacture, Storage and Import of Hazardous Chemical Rules 1989, as amended).

Not regulated

List of Hazardous Chemicals (Manufacture, Storage and Import of Hazardous Chemical Rules, Schedule I (Part II)).

Not regulated

Ozone Depleting Substances (ODS) (Ozone Depleting Substances (Regulation and Control) Rules 2000, Schedule 1).

Not regulated

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International regulations

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Montreal Protocol

Not applicable.

Kyoto 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
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)	No
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
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. – 141064
Category Code(s):
G5 Cooling and retort water treatment products
G7 Boiler, steam line treatment products – nonfood contact

16. Other information, including date of preparation or last revision

Issue date Dec-03-2008

Revision date 15/09/2021

Version # 7.0

List of abbreviations AICIS: Australian Inventory of Industrial Chemicals.

References: No data available

Disclaimer

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Revision information This document has undergone significant changes and should be reviewed in its entirety.

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