

# SAFETY DATA SHEET

## SPECTRUS NX1100

### 1. Chemical product and company identification

**Product name** SPECTRUS NX1100

**Recommended use and Limitations on use**

**Recommended use** Biocide

**Company/undertaking identification**

PT SUEZ WATER TECHNOLOGIES AND SOLUTIONS  
INDONESIA

South Quarter, Tower A, 18th Floor  
Unit F-G, Jl. RA Kartini Kav 8, Cilandak Barat  
Jakarta Selatan 12430, Indonesia  
Tel: +62 21 80669678

**Emergency telephone**

001-803-017-9114 (Indonesia)

+1 703-527-3887 (US)

### 2. Hazards identification

**GHS classification**

|                              |  |   |
|------------------------------|--|---|
| <b>Physical hazards</b>      | Corrosive to metals                                    | Category 1                              |
| <b>Health hazards</b>        | 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                              |
|                              | Specific target organ toxicity, single exposure        | Category 1                              |
| <b>Environmental hazards</b> | Specific target organ toxicity, single exposure        | Category 3 respiratory tract irritation |
|                              | Hazardous to the aquatic environment, long-term hazard | Category 2                              |

**Label elements**

**Pictogram**



**Signal word**

Danger

**Hazard statement**

May be corrosive to metals. Harmful if swallowed. Causes severe skin burns and eye damage. May cause an allergic skin reaction. Causes serious eye damage. Harmful if inhaled. May cause respiratory irritation. Causes damage to organs. Toxic to aquatic life with long lasting effects.

**Precautionary statement**

**Prevention**

Keep only in original container. Do not breathe mist or vapor. 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.

**Response**

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove person to fresh air and keep 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/doctor. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. Absorb spillage to prevent material damage.

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|                                 |  |
|---------------------------------|--|
| <b>Storage</b>                  | Store in a well-ventilated place. Keep container tightly closed. Store locked up. Store in corrosive resistant container with a resistant inner liner. |
| <b>Disposal</b>                 | Dispose of contents/container in accordance with local/regional/national/international regulations.  |
| <b>Supplemental information</b> | None.  |

### 3. Composition / information on ingredients

**Substance or mixture** Mixtures

#### Chemical property

| Chemical name  | CAS Number | Concentration (%) |
|--|------------|-------------------|
| 2-Bromo-2-nitropropane-1,3-diol (Bronopol)   | 52-51-7    | <= 10             |
| Magnesium chloride   | 7786-30-3  | <= 10             |
| Magnesium nitrate  | 10377-60-3 | <= 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 | <= 10             |

### 4. First aid measures

#### First aid measures for different exposure routes

|   |   |
|---|---|
| <b>Inhalation</b>                                   | 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.   |
| <b>Skin contact</b>                                 | 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.  |
| <b>Eye contact</b>                                  | 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.   |
| <b>Ingestion</b>                                    | 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.   |
| <b>Most important symptoms and effects</b>          | 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.   |
| <b>Personal protection for first-aid responders</b> | 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.   |
| <b>Notes to physician</b>                           | 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).<br>If swallowed, assess endoscopy results.<br>Contraindication: neutralization and activated Carbon.<br>Symptomatic treatment. |

### 5. Fire-fighting measures

|   |  |
|---|--|
| <b>Extinguishing media</b>              | Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).                                |
| <b>Extinguishing media to avoid</b>     | Do not use water jet as an extinguisher, as this will spread the fire.                     |
| <b>Specific hazards</b>                 | During fire, gases hazardous to health may be formed.                                      |
| <b>Special fire fighting procedures</b> | Use standard firefighting procedures and consider the hazards of other involved materials. |
| <b>Protection of fire-fighters</b>      | Move containers from fire area if you can do so without risk.                              |
| <b>Specific methods</b>                 | Use standard firefighting procedures and consider the hazards of other involved materials. |

### 6. Accidental release measures

|                             |   |
|-----------------------------|---|
| <b>Personal precautions</b> | 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. |
|-----------------------------|---|

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|                                  |  |
|----------------------------------|--|
| <b>Environmental precautions</b> | 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.   |
| <b>Spill clean-up methods</b>    | Prevent entry into waterways, sewer, basements or confined areas.<br><br>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.<br><br>Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.<br><br>Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. |

## 7. Handling and storage

### Handling

|                                      |  |
|--------------------------------------|--|
| <b>Technical measures</b>            | Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. 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. |
| <b>Local and general ventilation</b> | Use only outdoors or in a well-ventilated area.  |
| <b>Precautions</b>                   | Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid breathing mist. Wear appropriate personal protective equipment. When using, do not eat, drink or smoke. Avoid release to the environment.  |
| <b>Safe handling advice</b>          | Avoid prolonged exposure. Wash hands thoroughly after handling. Observe good industrial hygiene practices. Use personal protection recommended in Section 8 of the SDS.  |

### Storage

|                                    |   |
|------------------------------------|---|
| <b>Technical measures</b>          | 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 original 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). |
| <b>Suitable storage conditions</b> | Store locked up. Store in a cool, dry place out of direct sunlight. Keep only in the original container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).  |
| <b>Incompatible materials</b>      | Metals. Strong oxidizing agents. For further information, please refer to section 10 of the SDS.  |
| <b>Safe packaging materials</b>    | Store in corrosive resistant container with a resistant inner liner.  |

## 8. Exposure controls/personal protection

|                                      |  |
|--------------------------------------|--|
| <b>Exposure limits</b>               | No exposure limits noted for ingredient(s).  |
| <b>Engineering measures</b>          | 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. |
| <b>Personal protective equipment</b> |  |
| <b>Respiratory protection</b>        | Chemical respirator with organic vapor cartridge and full facepiece.   |
| <b>Hand protection</b>               | Wear appropriate chemical resistant gloves.  |
| <b>Eye protection</b>                | Wear safety glasses with side shields (or goggles) and a face shield.  |
| <b>Skin and body protection</b>      | Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.   |
| <b>Hygiene measures</b>              | 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

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|   |                 |
|---|-----------------|
| Physical state  | Liquid.         |
| Form  | Not available.  |
| Color   | Not available.  |
| Odor  | Not available.  |
| Odor threshold  | Not available.  |
| pH (concentrated product)                               | 3               |
| pH in aqueous solution                                  | 3.7 (5% SOL.)   |
| pH  | Not available.  |
| Melting point/freezing point                            | -4 °C           |
| Boiling point, initial boiling point, and boiling range | 104 °C          |
| Flash point   | Not available.  |
| Auto-ignition temperature                               | Not available.  |
| Flammability (solid, gas)                               | Not applicable. |
| <b>Upper/lower flammability or explosive limits</b>     |                 |
| 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)   |
| Evaporation rate  | < 1 (Ether = 1) |
| Relative density  | 1.11            |
| Relative density temperature                            | 21 °C           |
| Density   | Not available.  |
| <b>Solubility(ies)</b>                                  |                 |
| Solubility (water)                                      | 100 %           |
| Partition coefficient (n-octanol/water)                 | Not available.  |
| Decomposition temperature                               | Not available.  |
| Viscosity   | 10 cps          |
| Viscosity temperature                                   | 21 °C           |
| Pour point  | -2 °C           |
| <b>Other data</b>                                       |                 |
| Explosive properties                                    | Not explosive.  |
| Oxidizing properties                                    | Not oxidizing.  |
| Specific gravity  | 1.107           |
| VOC (Weight %)  | 0 %             |

### 10. Stability and reactivity

|                                  |  |
|----------------------------------|--|
| Reactivity                       | May be corrosive to metals.                    |
| Stability                        | Not available.                                 |
| Conditions to avoid              | Contact with incompatible materials.           |
| Incompatible materials           | Strong oxidizing agents. Metals.               |
| Hazardous decomposition products | No hazardous decomposition products are known. |

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### 11. Toxicological information

| Acute toxicity  | Harmful if swallowed.   |   |
|---|---|---|
| Product   | Species   | Test Results                            |
| SPECTRUS NX1100 (CAS Mixture)   |   |   |
| <b>Acute</b>  |   |   |
| <i>Dermal</i>   |   |   |
| LD50  | Rabbit  | > 2000 mg/kg                            |
| <i>Inhalation</i>   |   |   |
| LC50  | Rat   | > 1 mg/l, 4 Hour                        |
| <i>Oral</i>   |   |   |
| LD50  | Rat   | 1030 mg/kg                              |
| <b>Components</b>   | <b>Species</b>  | <b>Test Results</b>                     |
| 2-Bromo-2-nitropropane-1,3-diol (Bronopol) (CAS 52-51-7)  |   |   |
| <b>Acute</b>  |   |   |
| <i>Dermal</i>   |   |   |
| LD50  | Rat   | 1600 mg/kg                              |
| <i>Inhalation</i>   |   |   |
| LC50  | Rat   | > 0.59 mg/l, 4 Hour, (Aerosol toxicity) |
| <i>Oral</i>   |   |   |
| LD50  | Rat   | 324 mg/kg                               |
| Magnesium chloride (CAS 7786-30-3)  |   |   |
| <b>Acute</b>  |   |   |
| <i>Dermal</i>   |   |   |
| LD50  | Rabbit  | > 2000 mg/kg                            |
| <i>Oral</i>   |   |   |
| LD50  | Rat   | > 5000 mg/kg                            |
| Magnesium nitrate (CAS 10377-60-3)  |   |   |
| <b>Acute</b>  |   |   |
| <i>Dermal</i>   |   |   |
| LD50  | Rabbit  | > 5000 mg/kg                            |
| <i>Oral</i>   |   |   |
| 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) |   |   |
| <b>Acute</b>  |   |   |
| <i>Dermal</i>   |   |   |
| LD50  | Rabbit  | 90 mg/kg                                |
| <i>Inhalation</i>   |   |   |
| LC50  | Rat   | 0.33 mg/l, 4 Hour                       |
| <i>Oral</i>   |   |   |
| LD50  | Rat   | 67 mg/kg                                |
| <b>Routes of exposure</b>   | Inhalation. Ingestion. Skin contact. Eye contact.   |   |
| <b>Symptoms</b>   | Causes serious eye damage. May cause respiratory irritation. May cause an allergic skin reaction. Dermatitis. Rash. |   |
| <b>Skin corrosion/irritation</b>  | Prolonged skin contact may cause temporary irritation.  |   |
| <b>Serious eye damage/eye irritation</b>  | Direct contact with eyes may cause temporary irritation.  |   |
| <b>Respiratory or skin sensitization</b>  |   |   |
| <b>Respiratory sensitization</b>  | Not a respiratory sensitizer.   |   |

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|   |  |
|---|--|
| <b>Skin sensitization</b>                                 | This product is not expected to cause skin sensitization.  |
| <b>Germ cell mutagenicity</b>                             | No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. |
| <b>Carcinogenicity</b>                                    | Not available.   |
| <b>Toxic to reproduction</b>                              | This product is not expected to cause reproductive or developmental effects.                                     |
| <b>Specific target organ toxicity - single exposure</b>   | Causes damage to organs.   |
| <b>Specific target organ toxicity - repeated exposure</b> | Not available.   |
| <b>Aspiration hazard</b>                                  | Not an aspiration hazard.  |
| <b>Chronic effects</b>                                    | Prolonged inhalation may be harmful.   |
| <b>Other information</b>                                  | Not available.   |

## 12. Ecological information

### Ecotoxicological data

| Product                       |  | Species                         | Test Results                                |  |
|-------------------------------|--|---------------------------------|---|--|
| SPECTRUS NX1100 (CAS Mixture) | LC50   | Ceriodaphnia                    | 4.7 mg/l, Static Renewal Bioassay, 48 hour  |  |
|                               |  | Fathead Minnow                  | 3.5 mg/l, Static Renewal Bioassay, 96 hour  |  |
|                               |  | Menidia beryllina (Silversides) | 15.9 mg/l, Static Renewal Bioassay, 96 hour |  |
|                               |  | Mysid Shrimp                    | 40.5 mg/l, Static Renewal Bioassay, 48 hour |  |
|                               |  | Sheepshead Minnow               | 26.7 mg/l, Static Renewal Bioassay, 96 hour |  |
|                               | NOEL   | Ceriodaphnia                    | 0.63 mg/l, Static Renewal Bioassay, 48 hour |  |
|                               |  | Fathead Minnow                  | 1.8 mg/l, Static Renewal Bioassay, 96 hour  |  |
|                               |  | Menidia beryllina (Silversides) | 12.5 mg/l, Static Renewal Bioassay, 96 hour |  |
|                               |  | Mysid Shrimp                    | 18 mg/l, Static Renewal Bioassay, 48 hour   |  |
|                               |  | Sheepshead Minnow               | 15.5 mg/l, Static Renewal Bioassay, 96 hour |  |
| <b>Aquatic</b><br>Crustacea   | LC50   | Daphnia magna                   | 5 mg/l, Static Renewal Bioassay, 48 hour    |  |
|                               | NOEL   | Daphnia magna                   | 2.5 mg/l, Static Renewal Bioassay, 48 hour  |  |
|                               | Fish   | LC50                            | Rainbow Trout                               | 7.2 mg/l, Static Renewal Bioassay, 96 hour |
|                               |  | NOEL                            | Rainbow Trout                               | 3.1 mg/l, Static Renewal Bioassay, 96 hour |
| <b>Components</b>             | <b>Species</b>   |                                 | <b>Test Results</b>                         |  |
|                               | 2-Bromo-2-nitropropane-1,3-diol (Bronopol) (CAS 52-51-7) |                                 |   |  |
| <b>Aquatic</b><br>Fish        | EC50   | Daphnia Magna                   | 1.4 mg/l, 48 hour                           |  |
|                               | LC50   | Rainbow Trout                   | 41 mg/l, 96 hour                            |  |
| <b>Ecotoxicity</b>            | Toxic to aquatic life with long lasting effects.         |                                 |   |  |

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## SPECTRUS NX1100

### Bioaccumulation

#### Octanol/water partition coefficient log Kow

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) 0.486

### Mobility in soil

No data available for this product.

### Other hazardous 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

Toxic to aquatic life with long lasting effects.

### Persistence and degradability

- COD (mgO<sub>2</sub>/g) 77

## 13. Disposal considerations

### Local disposal regulations

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.

## 14. Transport information

### IATA

**UN number** UN3265  
**UN proper shipping name** Corrosive liquid, acidic, organic, n.o.s. (mixture of 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one, 2-bromo-2-nitropropane-1,3-diol)  
**Transport hazard class(es)**  
**Class** 8  
**Subsidiary risk** -  
**Packing group** II  
**Environmental hazards** Yes  
**Special precautions for user** Not available.

### IMDG

**UN number** UN3265  
**UN proper shipping name** CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (mixture of 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one, 2-bromo-2-nitropropane-1,3-diol), MARINE POLLUTANT  
**Transport hazard class(es)**  
**Class** 8  
**Subsidiary risk** -  
**Packing group** II  
**Environmental hazards**  
**Marine pollutant** Yes  
**EmS** Not available.  
**Special precautions for user** Not available.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not established.

### IATA; IMDG



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## SPECTRUS NX1100

Marine pollutant



### 15. Regulatory information

#### Applicable regulations

Additional information is given in the Safety Data Sheet.

**CWC (Law of RI No. 9 of 2008 re: Prohibition on the Use of Chemicals as Chemical Weapon)**

Not regulated.

**CWC (Law of RI No. 9 of 2008 re: Prohibition on the Use of Chemicals as Chemical Weapon, March 10, 2008)**

Not regulated.

**Dangerous Substances that Must be Registered (Regulation of the Minister of Health of the Republic of Indonesia)**

Not regulated.

**Import and Distribution Control of Hazardous Materials (Minister of Trade Regulation No. 75/M-DAG/PER/10/2014, Annex I)**

Not listed.

**Precursor Chemicals (Ministry of Industry and Trade Decree No. 647/MPP/Kep/10/2004 concerning Regulation on Import of Precursors, Attachment 1)**

Not regulated.

**Prohibited Substances (Government Regulation No. 74 of 2001 regarding Management of Hazardous and Poisonous Substances, Attachment II, Table 1)**

Not regulated.

**Restricted Substances (Government Regulation No. 74 of 2001 regarding Management of Hazardous and Poisonous Substances, Attachment II, Table 2)**

Not regulated.

**Toxic and Hazardous Materials List (Decree of the Ministry of Industry on the Safeguarding of Toxic and Hazardous Materials in Industrial Plants, No. 148/M/SK/4/1985)**

Not regulated.

**Hazardous Substances Approved for Use (Government Regulation No. 74 of 2001 regarding Management of Hazardous and Poisonous Substances, Attachment I)**

**Listed substances**

Not regulated.

**Listed substances / Allowed until 2040**

Not regulated.

**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

**Issued by** Not available.

**Disclaimer** Not available.

**Issue date** Jul-29-2013

**Revision date** 26/09/2018

**Legend to abbreviations and acronyms used in the SDS** Not available.

**References and sources for data used to compile the SDS** Not available.

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

# SAFETY DATA SHEET

## SPECTRUS NX1100

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