

# SAFETY DATA SHEET

## CORRSHIELD NT4201

### 1. Chemical product and company identification

**Product name** CORRSHIELD NT4201

**Recommended use and Limitations on use**

**Recommended use** Water-based corrosion inhibitor

#### 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
	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
	Specific target organ toxicity, single exposure	Category 2
	Specific target organ toxicity, repeated exposure	Category 2
<b>Environmental hazards</b>	Not classified.	

#### Label elements

##### Pictogram



##### Signal word

Danger

##### Hazard statement

May be corrosive to metals. Harmful if swallowed. Causes severe skin burns and eye damage. Causes serious eye damage. May cause damage to organs. May cause damage to organs through prolonged or repeated exposure.

#### Precautionary statement

##### Prevention

Keep only in original container. Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing dust/fume/gas/mist/vapours/spray.

##### Response

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Rinse skin with water/shower. 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: 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 experiencing respiratory symptoms: Rinse cautiously with water for several minutes. Wash contaminated clothing before reuse. Absorb spillage to prevent material damage. IF ON SKIN (or hair): If skin irritation occurs: IF SWALLOWED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get immediate medical advice/attention.

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<b>Storage</b>	Store in a closed container. 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 (%)
Sodium nitrite	7632-00-0	30 - 60
Sodium hydroxide	1310-73-2	<= 10

### 4. First aid measures

#### First aid measures for different exposure routes

<b>Inhalation</b>	Move to fresh air. Call a physician if symptoms develop or persist.
<b>Skin contact</b>	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.
<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.

**Most important symptoms and effects**      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. Prolonged exposure may cause chronic effects.

**Personal protection for first-aid responders**      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.

**Notes to physician**                                      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

<b>Extinguishing media</b>	Not available.
<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

**Personal precautions**                                      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.

**Environmental precautions**                              Avoid discharge into drains, water courses or onto the ground.

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**Spill clean-up methods** 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

### Handling

**Technical measures** 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. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

**Local and general ventilation** Provide adequate ventilation.

**Precautions** Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Wear appropriate personal protective equipment. When using, do not eat, drink or smoke.

**Safe handling advice** Avoid prolonged exposure. Wash hands thoroughly after handling. Observe good industrial hygiene practices. Use personal protection recommended in Section 8 of the SDS.

### Storage

**Technical measures** 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 away from incompatible materials (see Section 10 of the SDS).

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

**Incompatible materials** Metals. For further information, please refer to section 10 of the SDS.

**Safe packaging materials** Store in corrosive resistant container with a resistant inner liner.

## 8. Exposure controls/personal protection

### Exposure limits

**Indonesia. OELs (Minister of Manpower and Transmigration Regulation No. Per.13/MEN/X/2011 concerning Threshold Limit Values, Annex II)**

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

### Occupational exposure limits

**US. ACGIH Threshold Limit Values**

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

**Engineering measures** 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.

### Personal protective equipment

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

**Hand protection** Wear appropriate chemical resistant gloves.

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

**Skin and body protection** Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

### 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.

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### 9. Physical and chemical properties

#### Appearance

Physical state	Liquid.
Form	Not available.
Color	Not available.

Odor Not available.

Odor threshold Not available.

pH (concentrated product) 13.1

pH in aqueous solution 12 (5% SOL.)

pH 13.1

Melting point/freezing point -17 °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.

#### 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)

Evaporation rate < 1 (Ether = 1)

Relative density 1.23

Relative density temperature 21 °C

Density Not available.

#### Solubility(ies)

Solubility (water) 100 %

Partition coefficient (n-octanol/water) Not available.

Decomposition temperature Not available.

Viscosity 14 cps

Viscosity temperature 21 °C

Pour point -14 °C

#### Other data

Explosive properties Not explosive.

Oxidizing properties Not oxidizing.

Specific gravity 1.23

VOC (Weight %) 0 % (Estimated)

### 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.

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**Hazardous decomposition products** No hazardous decomposition products are known.

**Possibility of hazardous reactions** Hazardous polymerization does not occur.

### 11. Toxicological information

Product	Species	Test Results
<b>Acute toxicity</b> Harmful if swallowed.		
CORRSHIELD NT4201 (CAS Mixture)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 5000 mg/kg, (Calculated according to GHS additivity formula)
<i>Oral</i>		
LD50	Rat	593 mg/kg, (Calculated according to GHS additivity formula)
Components	Species	Test Results
Sodium hydroxide (CAS 1310-73-2)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	1350 mg/kg
<i>Oral</i>		
LD50	Rabbit	> 500 mg/kg
Sodium nitrite (CAS 7632-00-0)		
<b>Acute</b>		
<i>Oral</i>		
LD50	Rat	180 mg/kg
<b>Routes of exposure</b>	Inhalation. Ingestion. Skin contact. Eye contact.	
<b>Symptoms</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.	
<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.	
<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>	Not available.	
<b>Specific target organ toxicity - repeated exposure</b>	Not available.	
<b>Aspiration hazard</b>	Not an aspiration hazard.	
<b>Chronic effects</b>	May cause damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful.	
<b>Other information</b>	Not available.	

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### 12. Ecological information

#### Ecotoxicological data

Product	Species	Test Results
CORRSHIELD NT4201 (CAS Mixture)		
LC50	Fathead Minnow	840 mg/L, Static Renewal Bioassay, 96 hour, (pH adjusted)
NOEL	Fathead Minnow	500 mg/L, Static Renewal Bioassay, 96 hour, (pH adjusted)
<b>Aquatic</b>		
Crustacea	Daphnia magna	648 mg/L, Static Renewal Bioassay, 48 hour, (pH adjusted)
NOEL	Daphnia magna	125 mg/L, Static Renewal Bioassay, 48 hour, (pH adjusted)

Components	Species	Test Results
Sodium nitrite (CAS 7632-00-0)		
<b>Aquatic</b>		
Fish	Fish	0.56 - 1.78 mg/l, 96 hour

<b>Ecotoxicity</b>	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.
<b>Bioaccumulation</b>	No data available.
<b>Mobility in soil</b>	No data available for this product.
<b>Other hazardous effects</b>	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component. Nutrients: N= 55,3 mg/g
<b>Environmental fate</b>	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.
<b>Persistence and degradability</b>	
- COD (mgO2/g)	77,2
- TOC (mg C/g)	3,5

### 13. Disposal considerations

**Local disposal regulations** Dispose of contents/container in accordance with local/regional/national/international regulations.

### 14. Transport information

<b>IATA</b>	
<b>UN number</b>	UN3266
<b>UN proper shipping name</b>	Corrosive liquid, basic, inorganic, n.o.s. (SODIUM HYDROXIDE, SODIUM NITRITE)
<b>Transport hazard class(es)</b>	
<b>Class</b>	8
<b>Subsidiary risk</b>	-
<b>Packing group</b>	III
<b>Environmental hazards</b>	Yes
<b>ERG Code</b>	154
<b>Special precautions for user</b>	Not available.
<b>IMDG</b>	
<b>UN number</b>	UN3266
<b>UN proper shipping name</b>	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (SODIUM HYDROXIDE, SODIUM NITRITE), MARINE POLLUTANT
<b>Transport hazard class(es)</b>	
<b>Class</b>	8
<b>Subsidiary risk</b>	-
<b>Packing group</b>	III
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	Yes

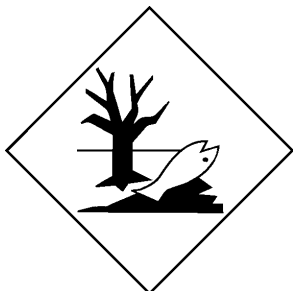
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EmS	F-A, S-B
Special precautions for user	Not available.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not established.
IATA; IMDG	



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)**

Sodium hydroxide (CAS 1310-73-2)

Sodium nitrite (CAS 7632-00-0)

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

**Listed substances**

Sodium hydroxide (CAS 1310-73-2)

**Listed substances / Allowed until 2040**

Not regulated.

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

Registration No. – 141186  
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** Aug-02-2013

**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.

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