



OCI Company Ltd.

Material Safety Data Sheet

MSDS

## Buffer solution pH9

### Section 1 - Chemical Product and Company Identification

SUBSTANCE: Buffer solution pH9

Recommended use : Not available

Restriction of use : Not available

Company Identification

Company : OCI Company Ltd.

Address : 230, Dokbae-ro, Nam-gu, Incheon, KOREA

Tel No. : 82-32-860-6114

### Section 2 - Hazards Identification

- 1) Hazard Classification      Reproductive toxicity : 1B  
Specific target organ toxicity following single exposure : 2  
Specific target organ toxicity following repeated exposure : 2

- 2) Warning signal  
Symbol



Signal word

Danger

Hazard statement

H360 May damage fertility or the unborn child

H371 May cause damage to organs

H373 May cause damage to organs through prolonged or repeated exposure

Prevention precautionary statements

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P281 Use personal protective equipment as required.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P309+P311 IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.

P314 Get medical advice/attention if you feel unwell.

P405 Store locked up.

P501 Dispose of contents/container to the related laws.

3) NFPA		
SODIUM	Health Rating	No data available
TETRABORATE	Flammability Rating	No data available
DECAHYDRATE	Reactivity Rating	No data available
Water	Health Rating	0
	Flammability Rating	0
	Reactivity Rating	0

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### Section 3 - Composition, Information on Ingredients

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COMPONENT:	SODIUM TETRABORATE DECAHYDRATE	Water
CAS No.:	1303-96-4	7732-18-5
PERCENTAGE:	< 1	> 99

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### Section 4 - First Aid Measures

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**General information:** Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.

**Ingestion:** Rinse mouth thoroughly. Call a POISON CENTER or doctor/physician if you feel unwell.

**Inhalation:** Move to fresh air. Get medical attention if symptoms persist.

**Skin Contact:** Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing. Wash contaminated clothing before reuse.

**Eye contact:** Flush thoroughly with water. If irritation occurs, get medical assistance.

**Most important symptoms/effects, acute and delayed**

**Symptoms:** May cause eye irritation.

**Indication of immediate medical attention and special treatment needed**

**Treatment:** Treat symptomatically. Symptoms may be delayed.

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### Section 5 - Fire Fighting Measures

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**General Fire Hazards:** In case of fire and/or explosion do not breathe fumes.

**Suitable (and unsuitable) extinguishing media**

**Suitable extinguishing media:** Use fire-extinguishing media appropriate for surrounding materials.

**Unsuitable extinguishing media:** None known.

**Specific hazards arising from the chemical:** During fire, gases hazardous to health may be formed.

**Special protective equipment and precautions for firefighters**

**Special fire fighting procedures:** Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out.

**Special protective equipment for fire-fighters:** Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

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### Section 6 - Accidental Release Measures

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**Personal precautions, protective equipment and emergency procedures:** Keep unauthorized personnel away. Use personal protective equipment. See Section 8 of the MSDS for Personal Protective Equipment.

**Methods and material for containment and cleaning up:** Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination.

**Notification Procedures:** Inform authorities if large amounts are involved.

**Environmental Precautions:** Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

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## Section 7 - Handling and Storage

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**Precautions for safe handling:** Use personal protective equipment as required. Avoid breathing mist or vapor. Wash hands thoroughly after handling. Avoid contact with eyes, skin, and clothing.

**Conditions for safe storage, including any incompatibilities:** Keep container tightly closed. Store in a cool, dry place. Store in a well-ventilated place.

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## Section 8 - Exposure Controls, Personal Protection

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### Control parameters

#### Occupational exposure limits

##### Sodium Tetraborate Decahydrate - Inhalable fraction.

Type	Exposure Limit values	Source
STEL	6 mg/m <sup>3</sup>	US. ACGIH Threshold Limit Values (02 2012)
TWA	2 mg/m <sup>3</sup>	US. ACGIH Threshold Limit Values (02 2012)

##### Sodium Tetraborate Decahydrate

Type	Exposure Limit values	Source
REL	5 mg/m <sup>3</sup>	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
TWA	10 mg/m <sup>3</sup>	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)

**Appropriate engineering controls** No data available.

#### Individual protection measures, such as personal protective equipment

**General information:** 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. An eye wash and safety shower must be available in the immediate work area.

**Eye/face protection:** Wear safety glasses with side shields (or goggles).

**Skin Protection:** Wear protective gloves. Wear suitable protective clothing.

**Respiratory Protection:** In case of inadequate ventilation use suitable respirator.

**Hygiene measures** Provide eyewash station and safety shower. Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. Wash contaminated clothing before reuse.

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## Section 9 - Physical and Chemical Properties

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Physical state: Liquid

Color: Colorless

Odor: Odorless

Odor threshold: No data available

pH: 9.00

Melting point/freezing point: 0 °C

Initial boiling point and boiling range: 100 °C

Flash Point: Not applicable

Evaporation rate: No data available  
Flammability (solid, gas): No data available  
Upper/lower limit on flammability or explosive limits: No data available  
Vapor pressure: No data available  
Vapor density: 0.7  
Relative density: 1.0  
Solubility: Soluble  
Partition coefficient (n-octanol/water): No data available  
Auto-ignition temperature: No data available  
Decomposition temperature: No data available  
Viscosity: No data available  
Molecular weight: No data available

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## Section 10 - Stability and Reactivity

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**Reactivity:** No dangerous reaction known under conditions of normal use.  
**Chemical Stability:** Material is stable under normal conditions.  
**Possibility of Hazardous Reactions:** Hazardous polymerization does not occur.  
**Conditions to Avoid:** Heat, sparks, flames. Contact with incompatible materials.  
**Incompatible Materials:** Combustibles, Reducing agents, Acids.  
**Hazardous Decomposition Products:** By heating and fire, toxic vapors/gases may be formed.

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## Section 11 - Toxicological Information

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### Information on likely routes of exposure

**Ingestion:** Expected to be a low ingestion hazard.  
**Inhalation:** May cause irritation to the respiratory system.  
**Skin Contact:** May cause irritation.  
**Eye contact:** May irritate eyes.

### Information on toxicological effects

#### Acute toxicity (list all possible routes of exposure)

**Oral Product:** No data available

#### Specified substance(s):

Sodium Tetraborate Decahydrate	LD50 2,660 mg/kg (Rat)
Water	LD50 90000 mg/kg Rat (LD50 > 90 ml/kg (Rat))

**Dermal Product:** No data available

**Inhalation Product:** No data available

**Skin Corrosion/Irritation Product:** May cause skin irritation.

**Serious Eye Damage/Eye Irritation Product:** May irritate eyes.

**Respiratory or Skin Sensitization Product:** Not a skin sensitizer.

**Carcinogenicity Product:** This substance has no evidence of carcinogenic properties.

#### Germ Cell Mutagenicity

**In vitro Product:** No mutagenic components identified

**In vivo Product:** No mutagenic components identified

**Reproductive Toxicity Product:** May damage fertility or the unborn child.

**Specific Target Organ Toxicity - Single Exposure Product:** None known.

**Specific Target Organ Toxicity - Repeated Exposure Product:** None known.

**Aspiration Hazard Product:** Not classified

**Other Effects:** None known.

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## Section 12 - Ecological Information

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### Ecotoxicity :

#### Acute hazards to the aquatic environment:

**Fish Product:** No data available

**Crustacea Product:** No data available

**Seaweed Product:** No data available

### Persistence and Degradability

#### Persistence:

Sodium Tetraborate Decahydrate      No data available

Water      log Kow -1.38

**Degradability:** No data available

**Mobility in Soil:** The product is water soluble and may spread in water systems.

**Other Adverse Effects:** Not expected to be harmful to aquatic organisms.

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## Section 13 - Disposal Considerations

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**Disposal instructions:** Discharge, treatment, or disposal may be subject to national, state, or local laws. Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

**Contaminated Packaging:** Since emptied containers retain product residue, follow label warnings even after container is emptied.

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## Section 14 - Transport Information

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UN Number: Not regulated

Shipping Name: Not applicable

Hazard Class: Not applicable

Packing Group: Not applicable

Marine Pollutant: : No data available

Safety measures : Not applicable

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## Section 15 - Regulatory Information

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### US federal regulations

#### TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

##### US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

##### CERCLA Hazardous Substance List (40 CFR 302.4):

None present or none present in regulated quantities.

##### Superfund amendments and reauthorization act of 1986 (SARA)

##### Hazard categories

Sodium Tetraborate Decahydrate

X Acute (Immediate)      X Chronic (Delayed)      Fire      Reactive      Pressure Generating

**SARA 302 Extremely hazardous substance**

None present or none present in regulated quantities.

**SARA 304 Emergency release notification**

None present or none present in regulated quantities.

**SARA 311/312 Hazardous chemical**

<b>Chemical identity</b>	<b>Threshold Planning Quantity</b>
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Sodium Tetraborate Decahydrate	500 lbs
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**SARA 313 (TRI reporting)**

None present or none present in regulated quantities.

**Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)**

None present or none present in regulated quantities.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):**

None present or none present in regulated quantities.

**US state regulations**

**US. California Proposition 65**

No ingredient regulated by CA Prop 65 present.

**US. New Jersey Worker and Community Right-to-Know Act**

Sodium Tetraborate Decahydrate	Listed
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**US. Massachusetts RTK - Substance List**

Sodium Tetraborate Decahydrate	Listed
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**US. Pennsylvania RTK - Hazardous Substances**

Sodium Tetraborate Decahydrate	Listed
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**US. Rhode Island RTK**

No ingredient regulated by RI Right-to-Know Law present.

**Inventory Status:**

Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
EU EINECS List:	On or in compliance with the inventory
Japan (ENCS) List:	On or in compliance with the inventory
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Philippines PICCS:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
China Inv. Existing Chemical Substances:	On or in compliance with the inventory
Canada NDSL Inventory:	Not in compliance with the inventory.
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Japan ISHL Listing:	On or in compliance with the inventory
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.

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**Section 16 - Other Information**

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Sources : KOSHA, National Emergency Management Agency

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