Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : NALCO® BT-3011 BOILER WATER TREATMENT
Other means of identification : Not applicable.
Recommended use : BOILER WATER TREATMENT
Restrictions on use : Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.
Company : Nalco Company
1601 W. Diehl Road
Naperville, Illinois 60563-1198
USA
TEL: (630) 305-1000
Emergency telephone number : (800) 424-9300 (24 Hours) CHEMTREC
Issuing date : 07/16/2020

Section: 2. HAZARDS IDENTIFICATION

GHS Classification
Skin corrosion : Category 1B
Serious eye damage : Category 1

GHS Label element
Hazard pictograms :

Signal Word : Danger
Hazard Statements : Causes severe skin burns and eye damage.
Precautionary Statements :
Prevention:
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.
Immediately call a POISON CENTER/doctor. 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.
Disposal:
Dispose of contents/ container to an approved waste disposal plant.

Other hazards : None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS
Section: 4. FIRST AID MEASURES

In case of eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

In case of skin contact: Wash off immediately with plenty of water for at least 15 minutes. Use a mild soap if available. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

If swallowed: Rinse mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.

If inhaled: Remove to fresh air. Treat symptomatically. Get medical attention if symptoms occur.

Protection of first-aiders: In event of emergency assess the danger before taking action. Do not put yourself at risk of injury. If in doubt, contact emergency responders. Use personal protective equipment as required.

Notes to physician: Treat symptomatically.

Most important symptoms and effects, both acute and delayed: See Section 11 for more detailed information on health effects and symptoms.

Section: 5. FIREFIGHTING MEASURES

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media: None known.

Specific hazards during firefighting: Not flammable or combustible.

Hazardous combustion products: Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx) Sulphur oxides Oxides of phosphorus

Special protective equipment for firefighters: Use personal protective equipment.

Specific extinguishing methods: Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.

Section: 6. ACCIDENTAL RELEASE MEASURES
Personal precautions, protective equipment and emergency procedures: Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid inhalation, ingestion and contact with skin and eyes. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8.

Environmental precautions: Do not allow contact with soil, surface or ground water.

Methods and materials for containment and cleaning up: Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Flush away traces with water.

Section: 7. HANDLING AND STORAGE

Advice on safe handling: Do not ingest. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Wash hands thoroughly after handling. Use only with adequate ventilation.


Suitable material: The following compatibility data is suggested based on similar product data and/or industry experience: Shipping and long term storage compatibility with construction materials can vary; we therefore recommend that compatibility is tested prior to use.

Unsuitable material: not determined

Section: 8. EXPOSURE CONTROLS/PERSOAL PROTECTION

Components with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Form of exposure</th>
<th>Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Hydroxide</td>
<td>1310-73-2</td>
<td>Ceiling</td>
<td>2 mg/m³</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ceiling</td>
<td>2 mg/m³</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>2 mg/m³</td>
<td>OSHA Z1</td>
</tr>
</tbody>
</table>

Engineering measures: Effective exhaust ventilation system. Maintain air concentrations below occupational exposure standards.

Personal protective equipment

Eye protection: Safety goggles
Face-shield

Hand protection: Wear the following personal protective equipment:
Standard glove type.
Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
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Skin protection: Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing.

Respiratory protection: When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hygiene measures: Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

The Personal Protective Equipment (PPE) recommendations provided above have been made in good faith based on typical expected conditions of use. PPE selection should always be completed in conjunction with a proper risk assessment and in accordance with a PPE management program.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Liquid

Colour: colourless

Odour: odourless

Flash point: > 93.3 °C, Method: ASTM D 93, Pensky-Martens closed cup

pH: 13.6,(100 %), Method: ASTM E 70

Odour Threshold: no data available

Melting point/freezing point: Freezing Point: < 0 °C, ASTM D-1177

Initial boiling point and boiling range: 90 °C

Evaporation rate: similar to water

Flammability (solid, gas): Not applicable.

Upper explosion limit: no data available

Lower explosion limit: no data available

Vapour pressure: similar to water

Relative vapour density: no data available

Relative density: 1.09, ASTM D-1298

Density: 9.1 lb/gal

Water solubility: completely soluble

Solubility in other solvents: no data available

Partition coefficient: n-octanol/water: no data available

Auto-ignition temperature: no data available

Thermal decomposition: no data available

Viscosity, dynamic: < 4 mPa.s (22 °C), Method: ASTM D 2983

Viscosity, kinematic: no data available

Molecular weight: no data available
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VOC : 0 %, 0 g/l, EPA Method 24

Section: 10. STABILITY AND REACTIVITY

Reactivity : No dangerous reaction known under conditions of normal use.
Chemical stability : Stable under normal conditions.
Possibility of hazardous reactions : No dangerous reaction known under conditions of normal use.
Conditions to avoid : Freezing temperatures.
Incompatible materials : Strong acids
Hazardous decomposition products : Decomposition products may include the following materials:
  Carbon oxides
  Nitrogen oxides (NOx)
  Sulphur oxides
  Oxides of phosphorus

Section: 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation, Eye contact, Skin contact

Potential Health Effects

Eyes : Causes serious eye damage.
Skin : Causes severe skin burns.
Ingestion : Causes digestive tract burns.
Inhalation : May cause nose, throat, and lung irritation.
Chronic Exposure : Health injuries are not known or expected under normal use.

Experience with human exposure

Eye contact : Redness, Pain, Corrosion
Skin contact : Redness, Pain, Corrosion
Ingestion : Corrosion, Abdominal pain
Inhalation : Respiratory irritation, Cough

Toxicity

Product
Acute oral toxicity : Acute toxicity estimate: > 5,000 mg/kg
Acute inhalation toxicity : no data available
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Acute dermal toxicity : Acute toxicity estimate: > 5,000 mg/kg
Skin corrosion/irritation : no data available
Serious eye damage/eye irritation : no data available
Respiratory or skin sensitization : no data available
Carcinogenicity : no data available
Reproductive effects : no data available
Germ cell mutagenicity : no data available
Teratogenicity : no data available
STOT - single exposure : no data available
STOT - repeated exposure : no data available
Aspiration toxicity : no data available

Section: 12. ECOLOGICAL INFORMATION

Ecotoxicity
Environmental Effects : This product has no known ecotoxicological effects.

Product
Toxicity to fish : LC50 Oncorhynchus mykiss (rainbow trout): > 5,000 mg/l
Exposure time: 96 hrs
Test substance: Product
Test Type: Static

NOEC Oncorhynchus mykiss (rainbow trout): 5,000 mg/l
Exposure time: 96 hrs
Test substance: Product
Test Type: Static

Toxicity to daphnia and other aquatic invertebrates : EC50 Daphnia magna (Water flea): 3,536 mg/l
Exposure time: 48 hrs
Test substance: Product
Test Type: Static

NOEC Daphnia magna (Water flea): 2,500 mg/l
Exposure time: 48 hrs
Test substance: Product
Test Type: Static

Persistence and degradability
no data available

Mobility
no data available
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Bioaccumulative potential
no data available

Other information
no data available

Section: 13. DISPOSAL CONSIDERATIONS

Disposal methods : Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility.

Disposal considerations : Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

Section: 14. TRANSPORT INFORMATION

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

The presence of an RQ component (Reportable Quantity for U.S. DOT) in this product causes it to be regulated with an additional description of RQ for road, or as Environmentally hazardous for road and air, ONLY when the net weight in the package exceeds the calculated RQ for the product.

Land transport (DOT)

Proper shipping name : SODIUM HYDROXIDE SOLUTION
Technical name(s) :
UN/ID No. : UN 1824
Transport hazard class(es) : 8
Packing group : III
Reportable Quantity (per package) : 46,000 lbs
RQ Component : SODIUM HYDROXIDE

Air transport (IATA)

Proper shipping name : SODIUM HYDROXIDE SOLUTION
Technical name(s) :
UN/ID No. : UN 1824
Transport hazard class(es) : 8
Packing group : III
Reportable Quantity (per package) : 46,000 lbs
RQ Component : SODIUM HYDROXIDE

Sea transport (IMDG/IMO)

Proper shipping name : SODIUM HYDROXIDE SOLUTION
Technical name(s) :
UN/ID No. : UN 1824
Transport hazard class(es) : 8
Section: 15. REGULATORY INFORMATION

TSCA list : No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Component RQ (lbs)</th>
<th>Calculated product RQ (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Hydroxide</td>
<td>1310-73-2</td>
<td>1000</td>
<td>46083</td>
</tr>
</tbody>
</table>

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Acute Health Hazard

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop. 65
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

INTERNATIONAL CHEMICAL CONTROL LAWS:

United States TSCA Inventory
The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

Canadian Domestic Substances List (DSL)
The substance(s) in this preparation are included in or exempted from the Domestic Substance List (DSL).

Korea. Korean Existing Chemicals Inventory (KECI)
All substances in this product comply with the Chemical Control Act (CCA) and are listed on the Existing Chemicals List (ECL).

Japan. ENCS - Existing and New Chemical Substances Inventory
All substances in this product comply with the Law Regulating the Manufacture and Importation Of Chemical Substances and are listed on the Existing and New Chemical Substances list (ENCS).

Australia. Industrial Chemical (Notification and Assessment) Act
All substances in this product comply with the National Industrial Chemicals Notification & Assessment Scheme (NICNAS).
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Philippines Inventory of Chemicals and Chemical Substances (PICCS)
All substances in this product comply with the Republic Act 6969 (RA 6969) and are listed on the Philippines Inventory of Chemicals & Chemical Substances (PICCS).

China Inventory of Existing Chemical Substances
All substances in this product comply with the Provisions on the Environmental Administration of New Chemical Substances and are listed on or exempt from the Inventory of Existing Chemical Substances China (IECSC).

Taiwan Chemical Substance Inventory
All substances in this product comply with the Taiwan Existing Chemical Substances Inventory (ECSI).

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand
All substances in this product comply with the Hazardous Substances and New Organisms (HSNO) Act 1996, and are listed on or are exempt from the New Zealand Inventory of Chemicals.

Section: 16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA:</th>
<th>HMIS III:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability</td>
<td>HEALTH 3</td>
</tr>
<tr>
<td>Health</td>
<td>FLAMMABILITY 1</td>
</tr>
<tr>
<td>Instability</td>
<td>PHYSICAL HAZARD 0</td>
</tr>
</tbody>
</table>

Special hazard. 0 = not significant, 1 = Slight, 2 = Moderate, 3 = High, 4 = Extreme, * = Chronic

Revision Date : 07/16/2020
Version Number : 1.2
Prepared By : Regulatory Affairs

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

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. For additional copies of an SDS visit www.nalco.com and request access.