

CORIUM Z80 Advanced Boiler Treatment Compound

DESCRIPTION

Corium Z80 provides one package boiler water treatment. The use of this new advanced water treatment combination offers the convenience of handling only one material to control the many problems associated with the operation of low to medium pressure boilers.

BOILER SCALE CONTROL

1. Corium Z80 contains a synthetic polymeric dispersant that inhibits scale formation by dispersing and distorting the insoluble precipitates that form in the boiler water in such a manner that sludge is produced rather than scale. This sludge conditioner action helps keep the boiler sludge fluid so that it can be carried out of the boiler with the blowdown. No other sludge conditioner is required with the use of Corium Z80.
2. Many traditional sludge conditioners include lignins, tannins, starch, and specialized organics which can be broken down by the high temperatures, pressures, and alkalinity's inside the boiler. This not only reduces their effectiveness as sludge conditioners but, in some cases, the degradation products contribute to scale formation (organic deposits), foaming, and priming or "carry-over". The sludge conditioner in Corium Z80 is not degraded by heat as are many other natural conditioners and thus will not contribute to scale problems.
3. During extended periods of continued use of Corium Z80 a gradual removal of existing scale occurs. As this process is accomplished, the newly descaled surfaces are automatically conditioned to the degree that the formation of new scale is retarded. The mechanism of scale control provided by Corium Z80 is not pH dependent and thus precise or exact alkalinity control is not usually required. (However, to minimize corrosion under normal boiler operating conditions, it is recommended that the boiler water be maintained at a pH of 9 or higher.) Except where the volume of makeup water is low (high percentage condensate return) or where alkalinity is

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CPIM Z80.1	Version 1.0	Revision 1.0	Rev. Date: February 16, 2000	Reference: LUN
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removed from the makeup water by external pretreatment procedure, the desired pH values can be achieved by the cycles of concentration.

4. Scale inhibition is complemented by another component of Corium Z80. This is a non-ionic organic dispersant that passivates water-side surfaces, particularly the heat transfer surfaces where scale formation first occurs. This passivation contributes to scale control by retarding scale deposition and by reducing the effect of any prior surface corrosion.

CORROSION CONTROL

Corium Z80 contains materials that reduce or inhibit corrosion of the feedline and economizer as well as the water-side surfaces in the boiler. Corrosion of the feedline and economizer is related to the amount of dissolved oxygen and pH of the feedwater. Corrosion of the boiler tubes, drums, or water-wall headers are related to the dissolved oxygen and the boiler water alkalinity.

Corium Z80 also contains components that provide water-side corrosion protection by passivating the water contact surfaces of the boiler system, including boiler tubes, drums or water-wall headers. The passivated surfaces retard surface or pitting corrosion caused by the presence of trace amounts of oxygen and high temperatures. (As part of the recognized standard boiler operating procedures, alkalinity should be maintained at a level of at least 200-300 p.p.m. to minimize corrosion when using Corium Z80.)

HOW TO APPLY

APPLICATION

Corium Z80 provides one-package internal treatment for low to medium pressure boilers without the need to stock different treatment compounds for singular aspects of boiler maintenance and treatment. It contains sufficient oxygen-scavenging capacity to be used with feedwaters containing dissolved oxygen like those found in most boiler operations.

Corium Z80 does away with the use of phosphates in boiler treatment providing effective inhibition of scaling on the water-side surfaces and thereby eliminates

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CPIM Z80.2	Version 1.0	Revision 1.0	Rev. Date: February 16, 2000	Reference: LUN
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the need for continuous or manual blowdown.

DOSAGE RATES

The recommended dosage rates for Corium Z80 depend on the hardness of boiler feedwater. The density of Corium Z80 is approximately 1:1; therefore 1kg. of Corium Z80 is equivalent to 1 litre.

Feedwater Hardness	Recommended Dosage (*)
1. Less than 20 p.p.m.	Enough to maintain boiler residual of Corium Z80 at 20-30 p.p.m. The equivalent mixture ratio is 1.6 to 2.4 pints per 10,000 gallons or 200 to 300 ml per 10,000 litres.
2. More than 20 p.p.m.	Enough to maintain boiler residual of Corium Z80 at 30-50 p.p.m. The equivalent mixture ratio is 2.4 to 4 pints per 10,000 gallons or 300 to 500 ml per 10,000 litres.

(*) In order to ensure adequate corrosion protection, a minimum Corium Z80 residual of 20 p.p.m. should always be maintained in the boiler.

INTRODUCTION POINT

Corium Z80 should be introduced in the feedwater at a point immediately after the deaerator or feedwater tank. It can be dispensed directly from shipping containers using chemical-metering pumps or, in the absence of such equipment, Corium Z80 can be introduced at the mixture ratios given under Dosage Rates.

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CPIM Z80.3	Version 1.0	Revision 1.0	Rev. Date: February 16, 2000	Reference: LUN
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Total Quality Maintenance

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CZ-80 p.1

MATERIAL SAFETY DATA SHEET

DATE 01 Aug 2014

SECTION 1 - IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY

Product Name/Code CORIUM Z80

Company Identification

Omega Manufacturing Division,
Magna Industrial Co. Limited,
1801, Guardian House,
32 Oi Kwan Road,
Wanchai, Hong Kong.

Distributor

Alshawi Trading,
Block 351, Road 51, Bldg 20, Manama - Bahrain.
www.alshawitrading.com
info@alshawitrading.com
P.O.Box 33526

Telephone (852) 25775187
Fax (852) 25773190

Telephone (973) 1755 0019
Fax (973) 1755 5108

SECTION 2 - HAZARDS IDENTIFICATION

Corrosive product.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

<u>Ingredients</u>	<u>CAS Number</u>	<u>Wt.%</u>	<u>Classification</u>
Sodium hydroxide	1310-73-2	1-5	C;R35

SECTION 4 - FIRST-AID MEASURES

Eye Contact: Flush with plenty of water for at least 15 minutes. Seek immediate medical attention.

Skin Contact: Wash thoroughly with soap and water. Obtain medical attention in case of skin irritation or other cause for concern.

Inhalation: Move patient to open air.

Ingestion: Do not induce vomiting. Seek immediate medical attention.

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CZ-80 p.2

SECTION 5 - FIRE-FIGHTING MEASURES

Extinguishing Media: N.A.

Special Protective Equipment for Fire Fighters: N.A.

Unusual Fire and Explosion Hazards: Dense smoke.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Spillage: Transfer bulk of material into another container. Absorb remaining residue with proper absorbents such as sand, vermiculite. Sweep up and dispose of in accordance with local and national regulations.

SECTION 7 - HANDLING AND STORAGE

Keep containers closed. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Wash clothing before reuse. Keep away from feed and food products. Keep out of reach of children.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

ACGIH TLV

Sodium hydroxide	2 mg/m ³
Sodium phosphate	10 mg/m ³

Eye Protection: Safety goggles

Hand Protection: Rubber or plastic oil resistant gloves.

Ventilation: Use under well ventilated conditions.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Brown liquid

Odour: None

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CZ-80 p.3

pH: 13 to 14
Specific Gravity: 1.13
Vapour Pressure: N.A.
Boiling Point: 100°C
Melting Point: N.A.
Flash Point: None
Flammability: N.A.
Evaporation Rate: <1 (water = 1)
Solubility in Water: Soluble

SECTION 10 - STABILITY AND REACTIVITY

Stable

Materials to Avoid: Acidic materials.

Toxic compounds may form on thermal decomposition. Hazardous combustion products: carbon monoxide, carbon dioxide.

SECTION 11 - TOXICOLOGICAL INFORMATION

There is no lethal dose information available.

Inhalation: Irritating to the respiratory system.

Skin: May cause irritation, drying and cracking.

Eyes: Cause irritation.

Ingestion: May cause irritation in mouth and stomach, thirst, nausea, vomiting, diarrhoea, with possible collapse if large amounts ingested.

SECTION 12 - ECOLOGICAL INFORMATION

No ecological information is available at present.

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CZ-80 p. 4

SECTION 13 - DISPOSAL CONSIDERATIONS

Comply with all local and national regulations regarding disposal.

SECTION 14 - TRANSPORT INFORMATION

Proper Shipping Name: SODIUM HYDROXIDE SOLUTION.

UN Number: 1824

IATA Class: 8, Packing Group: III

IMDG Class: 8, Packing Group: III

Not considered hazardous for transport purpose.

SECTION 15 - REGULATORY INFORMATION

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SECTION 16 - OTHER INFORMATION

R-phrases: R34- Causes burns

S-phrases: S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice

S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection

S45 - In case of accident or if you feel unwell, seek medical advice immediately (show label when possible)

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