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Binder with this one.

MATERIAL SAFETY DATA SHEET

Ashland

Page 001
Date Prepared: 08/16/04
Date Printed: 02/11/05
MSDS No: 306.0336705-004.007

DREWROL 7000 BOILER WATER TREATMENT

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Material Identity

Product Name: DREWROL 7000 BOILER WATER TREATMENT
Product Code:
General or Generic ID: BOILER WATER TREATMENT

Company

Ashland
Ashland Distribution Co. &
Ashland Specialty Chemical Co.
P. O. Box 2219
Columbus, OH 43216
614-790-3333

Emergency Telephone Number:

1-800-ASHLAND (1-800-274-5263)
24 hours everyday

Regulatory Information Number:
1-800-325-3751

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient(s)	CAS Number	% (by weight)
SODIUM HYDROXIDE	1310-73-2	5.0- 15.0
SODIUM SULFITE	7757-83-7	1.0- 11.0
TRADE SECRET	Trade Secret	1.0- 7.0

3. HAZARDS IDENTIFICATION

Potential Health Effects

Eye

Can cause permanent eye injury. Symptoms include stinging, tearing, redness, and swelling of eyes. Can injure the cornea and cause blindness.

Skin

Can cause permanent skin damage. Symptoms may include redness, burning, and swelling of skin, burns, and other skin damage. The feeling of irritation or pain may not occur until several hours after the exposure. The feeling of irritation or burning may be delayed following skin contact with potassium hydroxide solutions. Contact with mist or dust may cause multiple small skin burns. Additional symptoms of skin contact may include: hair loss, Passage of this material into the body through the skin is possible, and may add to toxic effects from breathing or swallowing.

Swallowing

Swallowing this material may be harmful or fatal. Symptoms may include severe stomach and intestinal irritation (nausea, vomiting, diarrhea), abdominal pain, and vomiting of blood. Swallowing this material may cause burns and destroy tissue in the mouth, throat, and digestive tract. Low blood pressure and shock may occur as a result of severe tissue injury.

Inhalation

It is possible to breathe this material under certain conditions of handling and use (for example, during heating, spraying, or stirring). Breathing of dust, vapor, and/or mist is possible. Breathing this material may be harmful or fatal. Symptoms may include severe irritation and burns to the nose, throat, and respiratory tract. Symptoms usually occur at air concentrations higher than the recommended exposure limits (See Section 8).

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Symptoms of Exposure

Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: irritation (nose, throat, airways), cough, difficult breathing, lung edema (fluid buildup in the lung tissue), lung damage, damage to the mouth, throat, and/or airways, shock.

Target Organ Effects

nasal damage.

Developmental Information

This material (or a component) causes harm to the fetus.

Cancer Information

Based on the available information, this material cannot be classified with regard to carcinogenicity. This material is not listed as a carcinogen by the International Agency for Research on Cancer, the National Toxicology Program, or the Occupational Safety and Health Administration.

Other Health Effects

No data

Primary Route(s) of Entry

Inhalation, Skin absorption, Skin contact, Eye contact, Ingestion.

4. FIRST AID MEASURES

Eyes

If material gets into the eyes, immediately flush eyes gently with water for at least 15 minutes while holding eyelids apart. If symptoms develop as a result of vapor exposure, immediately move individual away from exposure and into fresh air before flushing as recommended above. Seek immediate medical attention. Do not remove the victim from water access for transport to a medical facility unless instructed to do so by qualified medical personnel. If possible, continue flushing the eye gently with water while transporting the victim.

Skin

Immediately flush skin with water for at least 15 minutes while removing contaminated clothing and shoes. Seek immediate medical attention. Wash clothing before reuse and discard contaminated shoes.

Swallowing

Seek immediate medical attention. Do not induce vomiting. Vomiting will cause further damage to the mouth and throat. If individual is conscious and alert, immediately rinse mouth with water and give milk or water to drink. If possible, do not leave individual unattended.

Inhalation

If symptoms develop, immediately move individual away from exposure and into fresh air. Seek immediate medical attention; keep person warm and quiet. If person is not breathing, begin artificial respiration. If breathing is difficult, administer oxygen.

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Note to Physicians

Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material: respiratory tract, skin, lung (for example, asthma-like conditions).

5. FIRE FIGHTING MEASURES

Flash Point

No data

Explosive Limit

No data

Autoignition Temperature

Not applicable

Hazardous Products of Combustion

No data

Fire and Explosion Hazards

No special fire hazards are known to be associated with this product.

Extinguishing Media

Use an extinguishing media appropriate for surrounding fire.

Fire Fighting Instructions

Water may be used to keep fire-exposed containers cool until fire is out. Wear a self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode with appropriate turn-out gear and chemical resistant personal protective equipment. Refer to the personal protective equipment section of this MSDS.

NFPA Rating

Health - 3, Flammability - 0, Reactivity - 1

6. ACCIDENTAL RELEASE MEASURES

Small Spill

Absorb liquid on vermiculite, floor absorbent, or other absorbent material and transfer to hood.

Large Spill

Prevent run-off to sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that a spill has occurred. Persons not wearing protective equipment should be excluded from area of spill until clean-up is completed. Stop spill at source. Dike to prevent spreading. Pump to salvage tank.

7. HANDLING AND STORAGE

Handling

Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed. When diluting liquid caustic solutions, slowly add the caustic solution to lukewarm water (80-100 F "27-38 C") in order to prevent heat buildup that could result in injury due to

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boiling or spattering of the solution. Never start with cold or hot water. Never add water to caustic. Emergency eyewash fountains and safety showers should be available in the immediate vicinity of potential exposure. Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities. Promptly remove soiled clothing and wash before reuse. Shower after work using plenty of soap and water.

Storage

Keep from freezing.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye Protection

Chemical splash goggles and face shield (8" min.) in compliance with OSHA regulations are advised; however, OSHA regulations also permit other type safety glasses. (Consult your industrial hygienist.)

Skin Protection

Wear resistant gloves such as: neoprene, nitrile rubber, polyvinyl chloride, polyethylene. To prevent skin contact, wear impervious clothing and boots.

Respiratory Protections

Exposures in the workplace should be monitored if worker exposure to vapor or mists exceeds the PEL or TLV. Only a NIOSH/MSHA approved respirator and cartridge (TC-23C) is to be used. Monitoring results must be used to assess the proper level of respiratory protection necessary (such as: full face piece respirator with chemical cartridges or self-contained breathing apparatus {scuba}, etc.). Proper engineering and/or administrative controls should be used to reduce worker exposure. The facility's respiratory program must meet the requirements established in 29 CFR 1910.134, which includes a program for medical evaluation.

Engineering Controls

Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLV(s).

Exposure Guidelines

Component

SODIUM HYDROXIDE (1310-73-2)

OSHA PEL 2.000 mg/m3 - TWA

OSHA VPEL 2.000 mg/m3 - Ceiling

ACGIH TLV 2.000 mg/m3 - Ceiling

SODIUM SULFITE (7757-83-7)

No exposure limits established

TRADE SECRET

No exposure limits established

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point

(for product) > 200.0 F (93.3 C) @ 760 mmHg

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Vapor Pressure

No data

Specific Vapor Density

No data

Specific Gravity

1.176 @ 77.00 F

Liquid Density

9.807 lbs/gal @ 77.00 F

1.176 kg/l @ 25.00 C

Percent Volatiles

80.0 %

Evaporation Rate

SLOWER THAN ETHYL ETHER

Appearance

CLEAR

State

LIQUID

Physical Form

HOMOGENEOUS MIXTURE

Color

PALE BROWN

Odor

No data

pH

13.9

Freezing Point

12.0 F (-11.1 C)

10. STABILITY AND REACTIVITY

Hazardous Polymerization

Product will not undergo hazardous polymerization.

Hazardous Decomposition

May form: sodium sulfide residue, sulfur dioxide.

Chemical Stability

Stable.

Incompatibility

Avoid contact with: copper, organic materials, strong mineral acids, strong organic acids, Can react with chemically reactive metals, such as aluminum, zinc, magnesium, copper, etc., to release hydrogen gas which can form explosive mixtures with air.

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11. TOXICOLOGICAL INFORMATION

This mixture has not been specifically tested.

LD 50 and LC 50 Data

SODIUM HYDROXIDE (CAS# 1310-73-2)
Oral LDLo (rabbit): 500 mg/kg
Dermal LD50 (rabbit): 1350 mg/kg
Inhalation LC50: Not available
SODIUM SULPHITE (CAS# 7757-83-7)
Oral LD50 (rat): 820 mg/kg
Dermal LD50: Not available
Inhalation LC50: Not available

12. ECOLOGICAL INFORMATION

Ecotoxicological Information

96 hour LC50 rainbow trout (static conditions): 35,400 mg/l
96 hour LC50 fathead minnow (static conditions): 18,700 mg/l
48 hour LC50 Daphnia magna (static conditions): 8120 mg/l

Chemical Fate Information

BOD: <100 mg/l
COD: 56,000 mg/l

13. DISPOSAL CONSIDERATION

Waste Management Information

Dispose of in accordance with all applicable local, state and federal regulations. For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact Ashland Distribution Company, IC&S Environmental Services Group at 800-637-7922.

14. TRANSPORT INFORMATION

DOT Information - 49 CFR 172.101

DOT Description:
CAUSTIC ALKALI LIQUID, N.O.S., 8, UN1719, III

Container/Mode:
55 GAL DRUM/TRUCK PACKAGE

NOS Component:
SODIUM HYDROXIDE

RQ (Reportable Quantity) - 49 CFR 172.101

Product Quantity (lbs) Component

10000 SODIUM HYDROXIDE

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Other Transportation Information

The Transport Information may vary with the container and mode of shipment.

15. REGULATORY INFORMATION

US Federal Regulations

TSCA (Toxic Substances Control Act) Status

TSCA (UNITED STATES) The intentional ingredients of this product are listed.

CERCLA RQ - 40 CFR 302.4(a)

Component	RQ (lbs)
SODIUM HYDROXIDE	1000

CERCLA RQ - 40 CFR 302.4(b)

This material has a RQ of 100 lbs as a D002 Corrosive unlisted hazardous substance.

SARA 302 Components - 40 CFR 355 Appendix A

None

Section 311/312 Hazard Class - 40 CFR 370.2

Immediate(X) Delayed(X) Fire() Reactive() Sudden Release of Pressure()

SARA 313 Components - 40 CFR 372.65

None

OSHA Process Safety Management 29 CFR 1910

None listed

EPA Accidental Release Prevention 40 CFR 68

None listed

International Regulations

Inventory Status

DSL (CANADA) The intentional ingredients of this product are listed.

State and Local Regulations

California Proposition 65

None

New Jersey RTK Label Information

SODIUM HYDROXIDE 1310-73-2

Pennsylvania RTK Label Information

SODIUM HYDROXIDE (NA(OH)) 1310-73-2

16. OTHER INFORMATION

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

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PRODUCT STEWARDSHIP RISK MANAGEMENT INFORMATION

Ashland Chemical and the Drew Industrial Division have embraced the Product Stewardship Code of Practice to assure safe use of our products. This information is provided to assist our customers in managing their risks when using our products, so that they can be used safely.

CORROSIVES: Safety Precautions & Preventative Measures

Products - Caustic or Caustic-Containing (i.e. - Caustic Soda & Caustic Potash)

Workers should be thoroughly trained regarding the hazards of caustic or caustic-containing products before starting any work involving the material (unloading, storage, transferring, production, maintenance, lab testing, etc.). All such activities should be carefully planned in advance, and all planned procedures must be carefully followed.

HAZARD AND REGULATORY SUMMARY:

Caustic solutions are very corrosive industrial chemicals. Having the appearance of water, they do not look dangerous, but eye contact for only a few seconds can cause permanent damage, even blindness.

Caustics are odorless, so odor cannot serve as a warning. In addition, caustic or caustic-containing products do not always cause immediate pain when coming into contact with the skin. However they do cause immediate damage, the extent of which is dependent upon the length of exposure. Short contact with the skin may cause marked irritation, chemical burns

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is dependent upon the concentration of caustic in the product or solution. A 25-50% solution of sodium hydroxide, for example, causes a sensation of pain within three minutes, whereas a 4% solution may not cause pain until several hours after the exposure.

Upon contact, caustic or caustic-containing products continue to penetrate and damage the eyes or skin (unlike acids that coagulate protein to form a barrier). This means that:

Following eye contact, you must start flushing with water immediately to prevent permanent damage.

Following skin contact, you must start flushing with water immediately to prevent deep tissue damage, remove and dispose of any contaminated clothing.

Caustic or caustic-containing products must be washed from the body as quickly as possible using only water. Do not attempt to neutralize caustic or caustic-containing products with chemicals. Continue flushing for at least 15 minutes or as recommended by a physician. A hospital or medical center cannot provide better emergency first aid than water for caustic exposure - do not stop washing to transport the victim as this can result in more serious damage.

Release

(spills) of caustic or caustic-containing products to the environment may trigger reporting requirements to federal, state, and local authorities under Section 103 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (Superfund or CERCLA); and Section 304 of the Superfund Amendments and Reauthorization Act

of 1986 (SARA) (See 40 CFR 355). Spills of caustic are a DQ02



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(corrosive) RCRA Hazardous Waste if disposed w/o neutralization and pH of greater or equal to 12.5. Reporting spills to the U.S. Coast Guard may also be required under 40 CFR 117 and Section 311(a) of the Clean Water Act.

Additional Information/References

For more information, refer to Ashland Chemical's Brochure #2410 which may be obtained from your Ashland Sales Representative.

As a user of chemical products you are aware of the many uses of various chemicals. You should consider this data only as a supplement to other information gathered by you. Additional documents should be reviewed prior to using this product including the applicable Material Safety Data Sheet and storage and handling documentation for the product. This information can be obtained by contacting your Ashland Sales Representative. Ashland does not make any warranty or representation, either expressed or implied, with respect to the accuracy or correctness of the information contained herein; nor does Ashland assume any liability of any kind whatsoever resulting from the use of or reliance upon any information, procedures, conclusions or opinion in this document.

DREWTRON 7000 BOILER WATER TREATMENT
ENVIROMAX CS CORROSION INHIBITOR

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