Section 1: IDENTIFICATION

Product Name: ARCTIC BLEND LIQUID BOILER COMPOUND
Synonyms: Not available.
Product Use: Boiler Cleaner.
Restrictions on Use: Not available.
Manufacturer/Supplier: WORLD CHEMICALS LTD.
5956 87 Street
Edmonton, AB Canada
T6E 2Y4
Phone Number: 780-464-7611 (24hr)
Emergency Phone: Alberta Poison Control 1-800-332-1414
Date of Preparation of SDS: June 23, 2015
Revision Date: February 4, 2022

Section 2: HAZARD(S) IDENTIFICATION

GHS INFORMATION

Classification: Acute Toxicity – Oral, Category 4
Skin Corrosion, Category 1A
Serious Eye Damage, Category 1

LABEL ELEMENTS

Hazard Pictogram(s):

Signal Word: Danger

Hazard Statements: Harmful if swallowed.
Causes severe skin burns and serious eye damage.

Precautionary Statements

Prevention: Do not breathe mist, vapours, or spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear protective gloves, clothing, and eye and 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 or shower.
IF INHALED: Remove person to fresh air and keep comfortable and breathing.
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.

Wash contaminated clothing before reuse.

Storage: Store locked up.
Disposal: Dispose of contents/container in accordance with applicable regional, national and local laws and regulations.
Hazards Not Otherwise Classified: Not applicable.

Ingredients with Unknown Toxicity: None.

This material is considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910. 1200).
This material is considered hazardous by the Hazardous Products Regulations, 2015.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredient(s)	Common Name /Synonyms	CAS No.	%wt./wt.
Potassium hydroxide (K(OH))	Not available.	1310-58-3	36
Lignosulfonic acid, sodium salt	Sodium lignosulfate	8061-51-6	1

Section 4: FIRST AID MEASURES

Inhalation: If inhaled: Remove person to fresh air and keep comfortable for breathing.
Acute and delayed symptoms and effects: May cause respiratory irritation.

Signs/symptoms may include burning pain in the nose and throat, coughing, wheezing, shortness of breath and pulmonary edema. Inhalation of high concentrations of potassium hydroxide can cause lung damage.

Eye Contact: If in eyes: Rinse cautiously for at least 30 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor.
Acute and delayed symptoms and effects: Causes serious eye damage. Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or

complete loss of vision. High exposures to Potassium hydroxide cause severe burns with possible blindness resulting.

Skin Contact: If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Immediately call a poison center or doctor. Wash contaminated clothing before reuse.
Acute and delayed symptoms and effects: Causes severe skin burns. Signs/symptoms may include localized redness, swelling, itching, intense pain, blistering, ulceration, and tissue destruction.

Ingestion: If swallowed: Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Never give anything by mouth to an unconscious person.
Acute and delayed symptoms and effects: Harmful if swallowed. Causes burns to nose, mouth, throat, and digestive tract. Signs/symptoms may include severe mouth, throat, and abdominal pain, nausea, vomiting, and diarrhea, blood in the feces, and/or vomitus may also been seen.

General Advice: In case of accident of if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

Note to Physicians: Symptoms may not appear immediately. Perform endoscopy in all cases of suspected Potassium hydroxide ingestion. In cases of severe esophageal corrosion, the use of therapeutic doses of steroids should be considered. General supportive measures with continual monitoring of gas exchange, acid-base balance, electrolytes, and fluid intake are also required.

Section 5: FIRE FIGHTING-MEASURES

FLAMMABILITY AND EXPLOSION INFORMATION

Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated.

If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

Fire involving Tanks or Car/Trailer Loads: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire.

Sensitivity to Mechanical Impact: This material is not sensitive to mechanical impact.
Sensitivity to Static Discharge: This material is not sensitive to static discharge.

MEANS OF EXRINCTION

Suitable Extinguishing Media: Small Fire: Dry chemical, CO2 or water spray. Large Fire: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material.

Unsuitable Extinguishing Media: Not available.

Products of Combustion: Oxides of carbon. Oxides of sulphur.

Protection of Firefighters: TOXIC; inhalation, ingestion or skin contact with material may cause severe injury or death. Avoid any skin contact. Effects of contact or inhalation may be delayed. Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

Section 6: ACCIDENTAL RELEASE MEASURES

Emergency Procedures: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet). Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate enclosed areas. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area.)

Personal Precautions: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use personal protection recommended in Section 8.

Environmental Precautions: Prevent entry into waterways, sewers, basements or confined areas.

Methods for Containment: Stop leak if you can do it without risk.

Methods for Clean Up: Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

Other Information: See Section 13 for disposal considerations.

Section 7: HANDLING AND STORAGE

Handling:
Do not swallow. Do not breathe mist, vapours, or spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. See Section 8 for information on Personal Protective Equipment.

Storage:
Store locked up. Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines
Component

Potassium hydroxide [CAS No. 1310-58-3]
ACGIH: 2 mg/m^3 (C); (1992)
OSHA: 2 mg/m^3 (C); [Vacated];

Sodium lignosulfonate [CAS No. 8061-51-6]
ACGIH: No TLV established.
OSHA: No PEL established.

PEL: Permissible Exposure Limit
TLV: Threshold Limit Value
C: Ceiling

Engineering Controls: Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapour, gas, etc.) below recommended exposure limits.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Eye/Face Protection: Wear chemical safety goggles, and full-face shield. Ensure that eye wash stations and safety showers are close to the workstation location. Use equipment for eye protection that meets standards referenced by CSA Standard CAN/CSA-Z94.3-92 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.

Hand Protection: Wear protective gloves. Plastic or rubber gloves are recommended. Consult manufacturer specifications for further information.

Skin and Body Protection: Wear protective clothing. Clothing with full-length sleeves and pants should be worn.

Respiratory Protection: If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4-11, with organic vapor/acid gas cartridge and particulate filter, or self-contained breathing apparatus must be used when oxygen concentrations are low or if airborne concentrations exceed the limits of the air-purifying respirators.

General Hygiene Considerations: Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Black liquid.
Colour:	Black.
Odour:	Odourless.
Odour Threshold:	Not available.
Physical State:	Liquid.
pH:	14
Melting Point/ Freezing Point:	Not available.
Initial Boiling Point:	Not available.
Boiling Range:	Not available.
Flash Point:	Not available.
Evaporation Rate:	Not available.

Flammability (solid, gas):	Not available.
Lower Flammability Limit:	Not available.
Upper Flammability Limit:	Not available.
Vapour Pressure:	Not available.
Vapour Density:	Not available.
Relative Density:	1.2231 (Water = 1)
Solubilities:	Soluble in water.
Partition Coefficient n-Octanol/Water:	Not available.
Auto-ignition Temperature:	Not available.
Decomposition Temperature:	Not available.
Viscosity:	Not available.
Percent Volatile, wt. %:	Not available.
VOC content, wt. %:	Not available.
Density:	Not available.
Coefficient of Water/ Oil Distribution:	Not available.

Section 10: STABILITY AND REACTIVITY

Reactivity:	Contact with incompatible materials.
Chemical Stability:	Stable under normal storage conditions.
Possibility of Hazardous Reactions:	Potassium hydroxide can react with chemically reactive metals such as aluminum, zinc, magnesium, copper, etc. to release hydrogen gas which can form explosive mixtures with air.
Conditions to Avoid:	Contact with incompatible materials
Incompatible Materials:	Acids. Metals.
Hazardous Decomposition Products:	Corrosive, irritating and/or toxic fumes and gases (including potassium oxides) are evolved as the result of thermal decomposition.

Section 11: TOXICOLOGICAL INFORMATION

EFFECTS OF ACUTE EXPOSURE

Product Toxicity

Oral:	Not available.
Dermal:	Not available.
Inhalation:	Not available.

Component Toxicity

Component	CAS No.	LD_{50} oral	LD_{50} dermal	LC_{50}
Potassium hydroxide	1310-58-3	273 mg/kg (rat)	Not available.	Not available.
Sodium lignosulfonate	8061-51-6	6030 mg/kg (mouse)	Not available.	Not available.

Likely Routes of Exposure: Eye contact. Skin contact. Inhalation. Ingestion.
Target Organs: Skin. Eyes. Gastrointestinal tract. Respiratory system.
Symptoms (including delayed and immediate effects)
Inhalation: May cause respiratory irritation. Signs/symptoms may include burning pain in the nose and throat, coughing, wheezing, shortness of breath and pulmonary edema. Inhalation of high concentrations of Potassium hydroxide can cause lung damage.

Eye: Causes serious eye damage. Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision. High exposures to Potassium hydroxide cause severe burns with possible blindness resulting.

Skin: Causes severe skin burns. Signs/symptoms may include localized redness, swelling, itching, intense pain, blistering, ulceration, and tissue destruction.

Ingestions: Harmful if swallowed. Causes burns to nose, mouth, throat and digestive tract. Signs/symptoms may include severe mouth, throat and abdominal pain, nausea, vomiting, and diarrhea, blood in the feces and/or vomitus may also be seen.

Skin Sensitization: Not available.
Respiratory Sensitization: Not available.
Medical Conditions
Aggravated By Exposure: Not available.

EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)
Target Organs: Skin. Eyes. Gastrointestinal tract. Respiratory system.
Chronic Effects: Prolonged or repeated contact may dry skin and cause irritation.
Carcinogenicity: This product does not contain any carcinogens or potential carcinogens as listed by ACGIH, IARC, OSHA, or NTP.
Mutagenicity: Not available.
Reproductive Effects: Not available.

Developmental Effects:
Teratogenicity: Not available
Embryotoxicity: Not available.

Toxicologically Synergistic Materials: Not available.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity: Not available.
Persistence/ Degradability: Not available.
Bioaccumulation/ Accumulation: Not available.
Mobility in Environment: Not available.
Other Adverse Effects: Not available.

Section 13: DISPOSAL CONSIDERATIONS

Disposal Instructions: Disposal should be in accordance with applicable, regional and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

Section 14: TRANSPORT INFORMATION

U.S Department of Transportation (DOT)
Proper Shipping Name: UN1760, CORROSIVE LIQUIDS, N.O.S. (Potassium Hydroxide), 8, PG II
Class: 8
UN Number: UN1760
Packing Group: II
Label Code:

Canada Transportation of Dangerous Goods (TDG)
Proper Shipping Name: UN1760, CORROSIVE LIQUIDS, N.O.S. (Potassium Hydroxide), 8, PG II
Class: 8
UN Number: UN1760
Packing Group: II
Label Code:

Section 15: REGULATORY INFORMATION

Chemical Inventories

US (TSCA)

The components of this product are in compliance with the chemical notification requirements of TSCA.

Canada (DSL)

The components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999.

Federal Regulations

United States

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SARA Title III

Component	Section 302 (EHS) TPQ (lbs.)	Section 304 EHS RQ (lbs.)	CERCLA RQ (lbs.)	Section 313	RCRA CODE	CAA 112(r) TQ (lbs.)
Potassium hydroxide	Not listed.	Not listed.	1000	Not listed.	Not listed.	Not listed.

State Regulations

Massachusetts

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

Component	**CAS No.**
Potassium Hydroxide	1310-58-3

New Jersey

US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

Component	**CAS No**.
Potassium Hydroxide	1310-58-3

Note: SHHS = Special Health Hazard Substance

Pennsylvania

US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

Component	**CAS No**.
Potassium Hydroxide	1310-58-3

Note: E = Environmental Hazard

Section 16: OTHER INFORMATION

Disclaimer:

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

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