



SAI ENGINEERING SALES LTD.

8725-53 Avenue

Edmonton, Alberta T6E 5E9

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SAI 2534 BOILER WATER COMPOUND

Description:

A concentrated, balance boiler compound for the treatment of hot water boilers and closed loop systems operating at pressures of less than 6.2 MPa (900 psi). Ideally suited for food plants and other industrial use.

Directions:

Test hardness of feed water. This should be less than 200 ppm; if hardness exceeds 200 ppm, a separate softening procedure should be implemented. Estimate the amount of water in the system. For initial treatment, add 1 litre of SAI 2534 to each 200 litres of raw water in the system. Add the same rate for make up water. Please note that sodium nitrite forms a protective film on system surfaces. If the surface is large, i.e. long small diameter piping, more compound needs to be added to achieve the desired residual nitrite reading. The more make up water is added the more frequently the boiler should be blown down.

Specifications:

The parameters of the treated boiler water are as listed below. Should the reading be too low, it is necessary to increase the amount of SAI 2534. If the readings are too high, the boiler needs to be blown down more frequently, or the amount of SAI 2534 needs to be reduced.

1) pH	10.0 – 11.5
2) Nitrite	700 – 1100 ppm
3) Conductivity	1500 – 3000 μ mhos
4) P-Alkalinity	150 – 350 ppm
5) M-Alkalinity	400 – 800 ppm

Not for use in steam water or water which will contact milk and milk products. The sample of boiler water to be analyzed should be taken prior to blow down. A few litres should be passed through the sample point before taking the sample.

The Agri-Food Safety Division, Agriculture Canada has no objection to the use of this product in food plants when used according to label directions.

COMMERCIAL USE ONLY

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION

SAI ENGINEERING SALES LTD.
8725 - 53 AVENUE
EDMONTON AB T6E 5E9

Phone: 780-440-1911 or 780-446-0177
In Case of Emergency Only:
phone CANUTEC at (613) 996-6666

Product name: SAI 2534 BOILER WATER COMPOUND

Code: S744

Other name:

Distributed by: SAI Engineering Sales Ltd.

Product use: Boiler Water Treatment

Date completed: September 1, 2010

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	%W/W	CAS number
Potassium hydroxide (45%)	5-10	1310-58-3
Sodium nitrite	15-40	7632-00-0

3. HAZARDS IDENTIFICATION

Corrosive liquid. Causes burns. Harmful if swallowed.

4. FIRST AID MEASURES

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Induce vomiting only on the direct advice of a poison control centre. Drink 1-2 glasses of water. Never give anything by mouth to an unconscious person. Get medical attention.

Eye contact: Flush with plenty of water for at least 15 minutes. Get medical attention.

Skin contact: Remove contaminated clothing and flush with plenty of water.

5. FIRE - FIGHTING MEASURES

Flash point (test method): Not applicable

Flammable limits (%): Non-flammable

Lower: Not applicable

Upper: Not applicable

Fire extinguishing substances: Use extinguishing media appropriate for surrounding fire.

Autoignition temperatures: Not applicable

Hazardous combustion products: May liberate carbon monoxide, carbon dioxide and oxides of sodium.

Explosion data:

Sensitivity to mechanical impact: Not applicable

Sensitivity to static discharge: Not applicable

Special firefighting procedures: As for surrounding fire. Fire fighters should wear full protective clothing and self contained breathing equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Wear appropriate protective equipment.

Environmental precautions: Prevent from entering sewers, waterways or low areas.

Methods for cleaning up: Isolate hazard area and restrict access. Small spills: soak up with inert absorbent material and scoop into containers. Large spills: prevent contamination of waterways. Dike and pump into suitable containers. Clean up residual with absorbent material, place in appropriate container and flush with water.

7. HANDLING AND STORAGE

Handling: Do not ingest. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.
Storage: Keep out of reach of children. Keep container tightly closed. Store in a cool, dry area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls: Provide exhaust ventilation to keep airborne levels below recommended exposure limits.
Respiratory protection: If exposure exceeds occupational exposure limits, use an appropriate NIOSH approved respirator
Eye protection: Chemical goggles. Wear a face shield if splashing hazards exists.
Other protection: Wear protective clothing as necessary to prevent skin contact.

Exposure limits:

INGREDIENT	ACGIH	OSHA	Other
Potassium hydroxide (45%)	2 mg/m3 Ceil.	Not available	
Sodium nitrite	Not available		

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid	Solubility in water:	Complete
Boiling point:	Not available	Vapour pressure:	Not available
Vapour density:	Not available	Evaporation rate:	Not available
Freezing point:	Not available	Odour threshold:	Not available
Sp. Gravity:	1.243	pH:	alkaline
Appearance & odour:	clear, pale liquid		

10. STABILITY AND REACTIVITY

Stability: Stable
Conditions of instability: Not available
Incompatibility: () Water (X) Oxidizers (X) Acid () Base () Other
Conditions of reactivity: Reacts with acids and metals
Hazardous decomposition products: Not available

11. TOXICOLOGICAL PROPERTIES

POTENTIAL ACUTE HEALTH EFFECTS

Inhalation: Corrosive to respiratory system.
Ingestion: Harmful if swallowed. Causes burns to mouth, throat and stomach.
Eye contact: Corrosive to eyes. Causes severe burns.
Skin contact: Corrosive to skin. Causes severe burns.
Skin absorption: Not applicable

POTENTIAL CHRONIC HEALTH EFFECTS:

Inhalation: Repeat or prolonged exposure may cause damage to lungs.
Ingestion: Not available
Eye contact: Not available
Skin contact: Not applicable
Skin absorption: Not applicable

Irritancy of product:	See WHMIS criteria
Sensitization of product:	Not available
Carcinogenicity: IARC (1, 2A or 2B)	No known significant effects.
ACGIH: (A1, A2 or A3)	No known significant effects.
Reproductive toxicity:	No known significant effects.

Teratogenicity:	No known significant effects.
Mutagenicity:	No known significant effects.
Synergistic product:	Not available

HAZARDOUS INGREDIENTS

Potassium hydroxide (45%)

Sodium nitrite

CAS NO.

1310-58-3

7632-00-0

TOXICITY DATALD₅₀ Oral (rat) 273 mg/kgLD₅₀ Oral (rat) 85 mg/kgLC₅₀ Inhalation (rat) 515 ppm

12. ECOLOGICAL INFORMATION**Ecotoxicological information:** Not available**Other information:**

13. DISPOSAL CONSIDERATIONS**Waste disposal:** Disposal of all waste must be done according to local, provincial and federal regulations.

14. TRANSPORT INFORMATION**TDG classification:** Potassium hydroxide, solution; Class 8; UN 1814; PG II

15. REGULATORY INFORMATION

WHMIS:	E	Corrosive material
	D1B	Toxic Effects

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

16. PREPARATION INFORMATION**Prepared by:** Technical Services Department, Ostrem Chemical Co. Ltd., Ph: (780) 440-1911