Tri Sodium Phosphate

Manufactured by

THE CANADA CHEMICAL MANUFACTURING CO

LIMITED.

LONDON, ONTARIO.

London Printing & Litho. Co.

CANADA CHEMICAL MANUFACTURING COMPANY, LIMITED.

MANUFACTURERS OF

ACIDS AND CHEMICALS.

RECTORY STREET, . . . LONDON EAST, ONT.

ACIDS—Sulphuric, Commercial and Chemically Pure.
ACIDS—Nitric, Commercial and Chemically Pure.
" Muriatic, " " " "
" Sulphurous,
" Mixed. For Explosives.
AMMONIA—Liquid.
COPPERAS.
GLAUBERS SALTS.
" " —Calcined.
IRON—Muriate.
" —Nitrate.
LEAD—Pig, Bar and Sheet.
SODA—Caustic.
" —Bisulphite.
" —Bisulphate, Crude.
SALT CAKE.
SULPHUR—Flour of, and Crude.
TIN—Muriate, Single.
" — " Double.
LIQ. FERRI—PERCHLOR FORT.
TRI-SODIUM PHOSPHATE.
ACID PHOSPHATE, C. A. P.
BISULPHITE OF LIME.
CALCINED ALUM, C. T. S.
ACETIC ACID.
HOUSEHOLD AMMONIA.
NITRATE OF SODA.
CREAM TARTAR SUBSTITUTE.
PHOSPHORIC ACID.

THE TRI-SODIUM PHOSPHATE PROCESS.

THE CANADA CHEMICAL MANUFACTURING COMPANY OF LONDON, ONTARIO, hereby begs to introduce to the Steam Users of Canada *Tri-Sodium Phosphate*, an article, though well known to leading chemists the world over, has never hitherto been manufactured commercially in Canada.

TRI-SODIUM PHOSHATE is a scientific water purifier and corrective, and converts completely the hardenable carbonates and sulphates of lime and magnesia, found in most waters, into phosphates that cannot bake into scale, thus preventing absolutely the formation of incrustations in boilers.

THE SUBJECT OF KEEPING BOILERS CLEAN

and free from scale has always been a serious one for steam users, the formation of incrustations of only one-sixteenth inch in thickness in boilers meaning a loss, in heating power of fuel, of over ten per cent.

TRI-SODIUM PHOSPHATE is not a boiler compound in the ordinary sense, but is a radical departure from all other methods, preventing entirely the formation of scale, as well as removing any old scale that may have formed in the boiler before the use of Tri-Sodium Phosphate, without injury to joints, brass, iron or copper, in the slightest degree.

NO CORROSION, PITTING OR HONEY-COMBING

can take place in a boiler where Tri-Sodium Phosphate is in use, as it will effectually neutralize any acids that may be found in water.

TRI-SODIUM PHOSPHATE does away with the great waste of time, labor and expense caused by frequent openings of boilers for cleaning out and examinations, and the consequent chances of contraction and expansion when cold water is used for cooling boilers to permit of such examinations being made—for by the use of Tri-Sodium Phosphate all impurities either from water used or old scale (which comes off in powder form) will settle over night and the sediment can be blown out every morning before starting, from the bottom valve, and by the surface blow while steaming.

THE QUANTITY OF THIS ARTICLE

necessary for water correction depends upon the amount of mineral solids contained in the water to be treated, though one pound Tri-Sodium Phosphate for each 3,000 gallons water evaporated, has been found ample in most cases. If samples of water being used for steam purposes are submitted to the works at London, they will receive the careful attention of the chemist, and the proper amount Tri-Sodium Phosphate to be used for their correction promptly indicated free of charge. WRITE FOR PRICES. The ordinary evaporation of a one hundred horse-power boiler in a ten-hour run is slightly over 3,000 gallons, and this quantity requires usually but ONE POUND TRI-SODIUM PHOSPHATE to thoroughly neutralize the scale-forming impurities.

THE SMALL EXPENSE OF USING TRI-SODIUM PHOSPHATE

is therefore only nominal, paying for itself many times over in SAVING OF FUEL EFFECTED by its use, not to speak of wear on boilers from chipping scale, etc., not necessary when Tri-Sodium Phosphate is used.

The quantity indicated is of course for the neutralization of water being used only, and should any old scale be in the boiler, extra allowance must be made of an additional quantity Tri-Sodium Phosphate for its removal, such quantity to be in accordance with the state of incrustation contained in the boiler. When the boiler is once thoroughly cleaned, the quantity given, one pound to every 3,000 gallons water, will be found sufficient in most cases to prevent any new formation of scale, **if regularly fed in feed water.**

TRI-SODIUM PHOSPHATE is not made by rule of thumb, but is thoroughly balanced both from a chemical and a mechanical standpoint, and all incrustations and corrosions resulting from lime, magnesia, sulphur water, acids or oils, must disappear in the presence of Tri-Sodium Phosphate.

There are many articles in the market called boiler compounds, composed principally of tannic acid and caustic soda in varying proportions. Some may have merit, yet their general effect is to fall short of what is claimed for them, and the consequent result is scepticism on the part of steam users of anything and everything suggested for the removal of scale or the preventing of such formations.

The Canada Chemical Manufacturing Company has no wish to place in the market an article about which there is guess work, and in offering Tri-Sodium Phosphate knows that it is a preparation able to do what is claimed for it, and at a much lower price than so-called boiler purges sold at fancy figures.

TRI-SODIUM PHOSPHATE attacks lime and magnesia, forming them into a flocculent substance but slightly heavier than water, and that cannot bake into scale. This substance remains in suspension during ebullition, but precipitates when the boiler is at rest; hence the settlings can be blown out through bottom valve before starting in the morning and the sediment got rid of. Should this not be done, however, the sediment will not remain at the

bottom when heat is applied to the boiler, but will immediately enter into circulation with the water, again settling only when the boiler comes to rest.

TRI-SODIUM PHOSPHATE will not discolor water, nor will it cause foaming.

TRI-SODIUM PHOSPHATE cannot contaminate steam by odor or taste. As it is not volatile, it will not escape in steam or injure in any way the most delicate food products in the course of manufacture, where naked steam is used. It is in this wise indispensable to brewers, distillers, pork-packers, confectioners, creameries, and all users of naked steam.

GREASE IN BOILERS.

In no case should condensed exhaust steam be used unless with Tri-Sodium Phosphate, which destroys grease compounds, converting them into a harmless watery emulsion. A great danger to boilers is found where the exhaust steam is returned after condensation, bringing with it the grease of cylinder lubricants. The fatty acids of the oil combine with the carbonates of lime and magnesia, forming incrustations generally of a chocolate color having a soapy feel, which settling on the heated surface cause burning of the plates, with consequent buckling or bagging and dangerous ruptures, all of which can be prevented by the proper use of Tri-Sodium Phosphate.

TRI-SODIUM PHOSPHATE is also the best thing known for cleaning condensers.

Never use kerosene or low fire test oils in boilers, as they will not only pass off in steam to the injury of cylinder lubricants, but generate gas which penetrates calking and joints, causing leaks.

ACIDS IN WATER.

In some localities the water is highly charged with acids which attack and destroy boilers rapidly by corrosion and

pitting. Tri-Sodium Phosphate, when used in the same quantity as given for scale prevention, will overcome this pitting and corrosion and correct such waters perfectly.

SUGGESTIONS FOR APPLYING TRI-SODIUM PHOSPHATE.

Tri-Sodium Phosphate is a crystalline substance resembling salt somewhat, and though soluble in cold water is more soluble in warm water, which should be used when dissolving it in feed water. Feeding through injector or suction pump is generally practised. Throwing the solution into feed tank connected with suction pump is usually most convenient when one or two boilers are used, but when boilers are run in batteries a uniform drip from another vessel into feed tank is more desirable, as in this way the Tri-Sodium Phosphate is more properly distributed.

TREATING WATER IN TANKS.

When the water is very bad, whether from lime, magnesia or organic matters, it is of great benefit to treat the water in large tanks before using in boilers, and although the cost of tanks may seem heavy, yet in most cases the outlay must be found a satisfactory one, particularly where boilers are continuously steamed and in batteries. Tri-Sodium Phosphate will do its work in either hot or cold water. Place Tri-Sodium Phosphate in tank, using four ounces to every thousand gallons tank will hold, then fill, allowing it to stand four to five hours, when the mineral solids and organic matter will have settled, leaving the water, which at first appears cloudy, clean and pure. When this system is adopted, it is well to clean out sediment from the tank often, and for this purpose it is advisable to have suitably large wash-out valves in tanks.

Tri-Sodium Phosphate FOR Laundries.....

TRI-SODIUM Phosphate breaks water instantly—hot or cold, and by its use hard water can be made as soft as rain water, and turbid water clarified without the use of alum. Tri-Sodium Phosphate contains nothing that will injure fabrics or dyes, nor anything that can discolor or rot. The most delicate textiles can be safely cleansed, and snowy whiteness maintained without bleach. Flannels are thoroughly renovated without shrinking or hardening. Tri-Sodium Phosphate reduces labor and time of washing to a minimum, increasing the working capacity for speed and excellence of renovation.

FOR APPLICATION TO WATER IN WASHING MACHINES.

Dissolve Tri-Sodium Phosphate in warm water, adding enough to produce softness sensible to the hand after mixing well, then put in the clothes and add about one-half the usual quantity soap or enough to produce a good lather. Run machine one-third less time than customary.