

GARDOCLEAN® 4894

Highly Alkaline Chelated Compound; For De-rusting, Stripping, and Cleaning

PRIMARY APPLICATION

GARDOCLEAN® 4894, formerly Rustripper, is specially formulated for simultaneous alkaline de-rusting and descaling of ferrous metals where dimensional change or hydrogen embrittlement must be avoided. It also can be used for paint stripping, degreasing and heavy-duty cleaning (separately or simultaneously) in metal, food, petroleum, railroad, and other industries. Versatile Gardoclean 4894 is recommended for removing light to medium heat scale from titanium. It finds application for cleaning molds in rubber manufacturing plants, too.

Gardoclean 4894 meets the cleaning requirements of federal specification TT-C-490C, Method V. It will not attack sound metal of precision ferrous parts. Gardoclean 4894 is authorized by the USDA for use in federally inspected meat and poultry plants; contains ingredients acceptable to the FDA; is approved by the CDA and CDF (in Canada).

CHEMICAL CHARACTERISTICS

Chemical Composition	Blend of free caustic, alkaline salt, surfactants, organic chelating agents
Appearance	Off-white powder
Odor	None
Fuming Tendency	None
Flash Point	None
Hygroscopic Tendency	Severe (keep container tightly closed when not in use)
Foam Tendency	Slight in still tank; moderate when circulated; severe when sprayed
Recommended Diluents.....	Water
Maximum Solubility	240 g/l at 21°C (2 pounds/gallon at 70°F) 300 g/l at 66°C (2.5 pounds/gallon at 160°F)
Behavior in Hard Water.....	Chelates
Rinsability	Good with hot or cold water, even when dried on
Biodegradable Surfactants.....	No

Phosphate-Free Yes
Normal Working Concentrations 30 to 480 g/l (4 oz to 4 pounds/gallon)
Normal Operating Temperatures 71°C (160°F) to boiling
pH at Working Concentrations 13 + at working concentrations 21°C (70°F)

APPLICATION PROCEDURE

General: Gardoclean 4894 is used at a concentration of from 30 to 480 g/l (4 oz to 4 lbs/gal) at temperatures from 71°C (160°F) to boiling. Use for periods ranging from two minutes to several hours depending on the amount of rust to be removed and the speed desired. The same applies to paint stripping, degreasing and heavy-duty cleaning, except that the higher ranges of concentration and temperature are seldom necessary for these operations.

In Food Plants: Concentrations of Gardoclean 4894 average 30 to 60 g/l (4 to 8 oz/gal) for most rust removal operations or combinations of oil, grease and rust such as encountered in meat and poultry plants on hooks, trolleys, molds, etc. Only in extreme cases is it necessary to go to the 120 g/l (1lbs/gal) range.

Electrocleaning: To remove extremely difficult soils from steel prior to electroplating, Gardoclean 4894 may be added to 90 for reverse current cleaning. Equal quantities of each material are used for a total concentration of 60 to 180 g/l (1/2 to 1 1/2 lbs/gal) of water at temperatures from 82°C (180°F) to boiling.

Cleaning Rubber Molds: To remove carbonized rubber soils from steel molds, Gardoclean 4894 is normally employed at 60 to 180 g/l (1/2 to 1-1/2 lbs/gal) of water at temperatures from 82°C (180°F) to boiling.

SOLUTIONS CONTROL

Concentrations (by alkalinity) are titrated using Procedure 92. Concentrations (by chelate) are titrated using Procedure 58. For titration of free plus total alkali, use Gardotest Procedure 123. For titration of active alkali, corrected for aluminum contamination, use Procedure 17.

For concentrations by alkalinity use Procedure 92.

Sample Size: 1.0 ml

Factor: 8.0 (oz/gal)

For chelate, use Gardotest Procedure 58.

Sample Size: 25.0 ml

Factor: 4.2 (oz/gal)

For free and total alkali use Gardotest Procedure 123.

Sample Size: 1.0 ml

For titration of active alkali (corrected for aluminum contamination) use Gardotest Procedure 17.

Sample Size: 5.0 ml

Factor: 0.75 (oz/gal)

EQUIPMENT

Chemical Dispensing: The Chemetall Slurry Feed System can be used to premix powdered products with water allowing them to become slurries. The slurries can then be fed into the process automatically with a process controller and/or the proper chemical feed pump. The system includes a slurry tank, tank stand, mixer and chemical feed pump. Please contact the Chemetall Process Equipment and Engineering Department for specific recommendations.

NOTES ON USE (See Safety Data Sheet)

SAFETY AND HANDLING

Prior to handling and use of any of the materials referenced in this document, the Safety Data Sheets should be read and understood by all personnel in contact with these materials.

KEEP OUT OF REACH OF CHILDREN

STORAGE

Dry indoor storage at temperatures between 40°F and 100°F (4.4°C and 37.8°C) is recommended, away from any incompatible materials referenced in the Safety Data Sheets. All containers should be tightly closed when not in use.

DISPOSAL

Any disposal of the materials referenced in this document should be in accordance with all applicable federal, state, providential and local regulations. The process solution can contain components other than those present in the materials as supplied. Analysis of process solutions may be required prior to disposal.

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